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the 1990s, the number of people in the UK who are aged 65 and over has increased by 1.5 million, and the number of people aged 75 and over has increased by 1 million (Office of National Statistics 1999). The number of people aged 65 and over is projected to increase to 6.5 million by 2011, and the number of people aged 75 and over to 3.5 million (Office of National Statistics 1999).

There is a growing awareness of the need to address the needs of older people in the community. The Department of Health (1999) has published a strategy for older people, which sets out the government's commitment to improve the health and social care of older people. The strategy is based on the following principles: (1) to improve the health and social care of older people; (2) to ensure that older people are able to live independently in their own homes; (3) to ensure that older people are able to participate in the community; and (4) to ensure that older people are able to live in a safe and secure environment.

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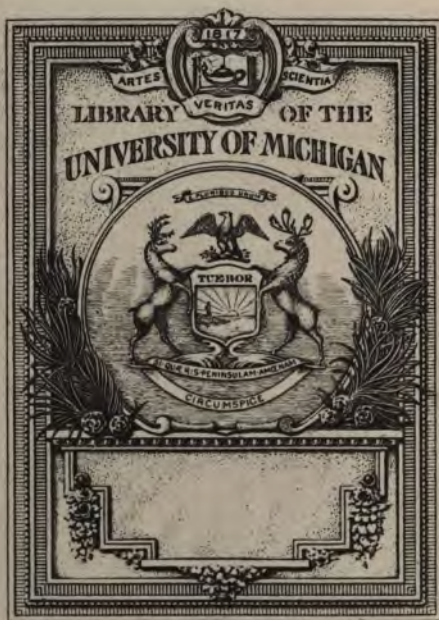
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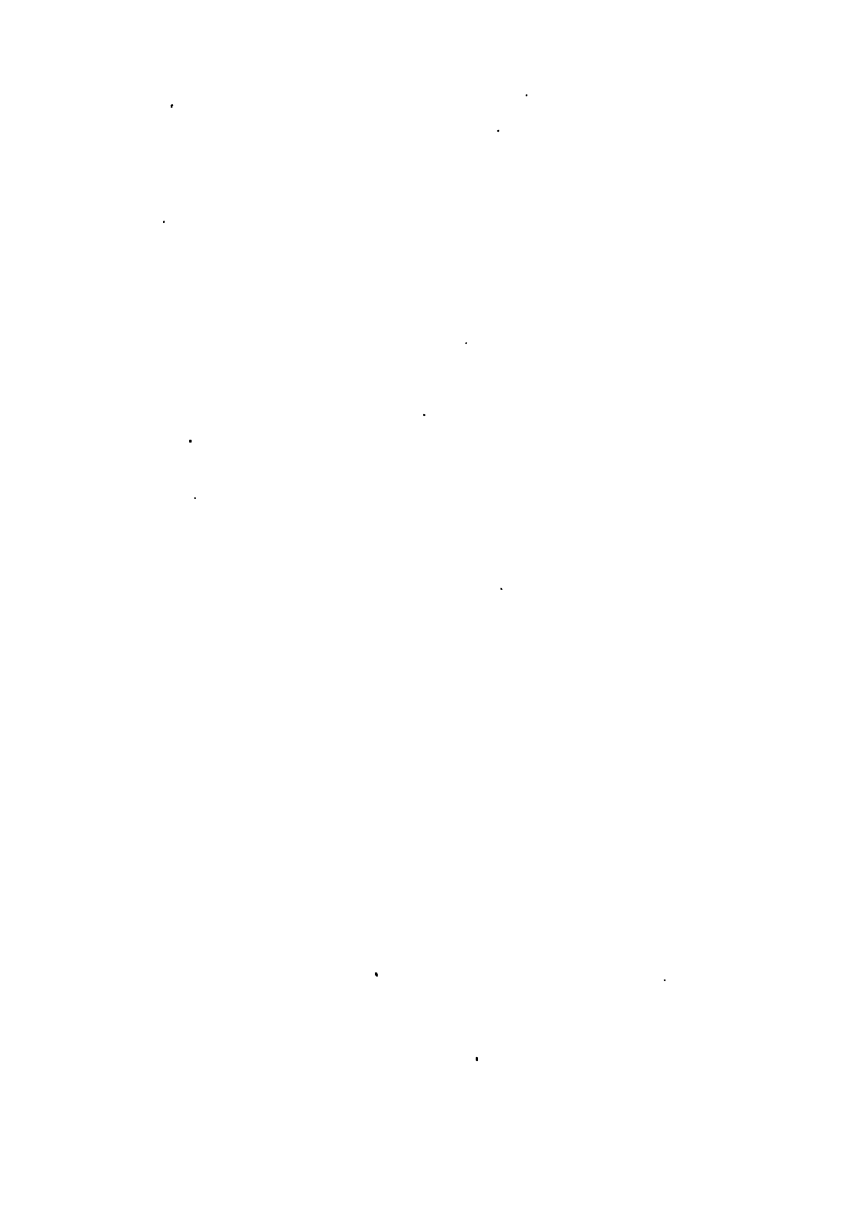
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T H E
Case of the Learned

R E P R E S E N T E D

According to the Merit of the ill Progress hitherto made in Arts and Sciences, chiefly in Philosophy, of which the Author gives an entire new System: Shewing,

- I. The Cause of Gravity and Attraction, otherwise speaking, of Attraction and Repulsion, how and after what manner Nature thereby produces all its most important Effects, chiefly in respect to the Planetary and Animal Motion; which he shews to be very far from depending either on the *Cartesian* or *Newtonian* Principles.
- II. What Nature is, and the Effects it is capable of; as also the true Difference between the Effects of God and those of Nature, and thereby renders the Existence of God and the Immortality of the Soul absolutely indisputable, even to the most confirmed Atheists, and shews that Sir *Isaac Newton*, instead of having prov'd those most important Points, and establish'd natural Religion better than ever any Philosopher did, as he and his Disciples pretend, he has entirely disprov'd them, and overturn'd both natural and reveal'd Religion.
- III. How and after what manner Vice may be suppress'd, and Virtue encreased in the World.
- IV. How Arts and Sciences may soon be brought to, and continue at their Point of Perfection, and to establish a sole Christian Faith all over the World.

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One relating to *Mechanics*, and the other to *Philosophy, &c.*

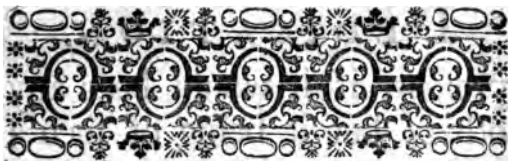
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History of Science

3-5-7-9-11-13-15-17-19-21-23-25-27-29-31-33-35-37-39-41-43-45-47-49-51-53-55-57-59-61-63-65-67-69-71-73-75-77-79-81-83-85-87-89-91-93-95-97-99-101-103-105-107-109-111-113-115-117-119-121-123-125-127-129-131-133-135-137-139-141-143-145-147-149-151-153-155-157-159-161-163-165-167-169-171-173-175-177-179-181-183-185-187-189-191-193-195-197-199-201-203-205-207-209-211-213-215-217-219-221-223-225-227-229-231-233-235-237-239-241-243-245-247-249-251-253-255-257-259-261-263-265-267-269-271-273-275-277-279-281-283-285-287-289-291-293-295-297-299-301-303-305-307-309-311-313-315-317-319-321-323-325-327-329-331-333-335-337-339-341-343-345-347-349-351-353-355-357-359-361-363-365-367-369-371-373-375-377-379-381-383-385-387-389-391-393-395-397-399-401-403-405-407-409-411-413-415-417-419-421-423-425-427-429-431-433-435-437-439-441-443-445-447-449-451-453-455-457-459-461-463-465-467-469-471-473-475-477-479-481-483-485-487-489-491-493-495-497-499-501-503-505-507-509-511-513-515-517-519-521-523-525-527-529-531-533-535-537-539-541-543-545-547-549-551-553-555-557-559-561-563-565-567-569-571-573-575-577-579-581-583-585-587-589-591-593-595-597-599-601-603-605-607-609-611-613-615-617-619-621-623-625-627-629-631-633-635-637-639-641-643-645-647-649-651-653-655-657-659-661-663-665-667-669-671-673-675-677-679-681-683-685-687-689-691-693-695-697-699-701-703-705-707-709-711-713-715-717-719-721-723-725-727-729-731-733-735-737-739-741-743-745-747-749-751-753-755-757-759-761-763-765-767-769-771-773-775-777-779-781-783-785-787-789-791-793-795-797-799-801-803-805-807-809-811-813-815-817-819-821-823-825-827-829-831-833-835-837-839-841-843-845-847-849-851-853-855-857-859-861-863-865-867-869-871-873-875-877-879-881-883-885-887-889-891-893-895-897-899-901-903-905-907-909-911-913-915-917-919-921-923-925-927-929-931-933-935-937-939-941-943-945-947-949-951-953-955-957-959-961-963-965-967-969-971-973-975-977-979-981-983-985-987-989-991-993-995-997-999-1001-1003-1005-1007-1009-1011-1013-1015-1017-1019-1021-1023-1025-1027-1029-1031-1033-1035-1037-1039-1041-1043-1045-1047-1049-1051-1053-1055-1057-1059-1061-1063-1065-1067-1069-1071-1073-1075-1077-1079-1081-1083-1085-1087-1089-1091-1093-1095-1097-1099-1101-1103-1105-1107-1109-1111-1113-1115-1117-1119-1121-1123-1125-1127-1129-1131-1133-1135-1137-1139-1141-1143-1145-1147-1149-1151-1153-1155-1157-1159-1161-1163-1165-1167-1169-1171-1173-1175-1177-1179-1181-1183-1185-1187-1189-1191-1193-1195-1197-1199-1201-1203-1205-1207-1209-1211-1213-1215-1217-1219-1221-1223-1225-1227-1229-1231-1233-1235-1237-1239-1241-1243-1245-1247-1249-1251-1253-1255-1257-1259-1261-1263-1265-1267-1269-1271-1273-1275-1277-1279-1281-1283-1285-1287-1289-1291-1293-1295-1297-1299-1301-1303-1305-1307-1309-1311-1313-1315-1317-1319-1321-1323-1325-1327-1329-1331-1333-1335-1337-1339-1341-1343-1345-1347-1349-1351-1353-1355-1357-1359-1361-1363-1365-1367-1369-1371-1373-1375-1377-1379-1381-1383-1385-1387-1389-1391-1393-1395-1397-1399-1401-1403-1405-1407-1409-1411-1413-1415-1417-1419-1421-1423-1425-1427-1429-1431-1433-1435-1437-1439-1441-1443-1445-1447-1449-1451-1453-1455-1457-1459-1461-1463-1465-1467-1469-1471-1473-1475-1477-1479-1481-1483-1485-1487-1489-1491-1493-1495-1497-1499-1501-1503-1505-1507-1509-1511-1513-1515-1517-1519-1521-1523-1525-1527-1529-1531-1533-1535-1537-1539-1541-1543-1545-1547-1549-1551-1553-1555-1557-1559-1561-1563-1565-1567-1569-1571-1573-1575-1577-1579-1581-1583-1585-1587-1589-1591-1593-1595-1597-1599-1601-1603-1605-1607-1609-1611-1613-1615-1617-1619-1621-1623-1625-1627-1629-1631-1633-1635-1637-1639-1641-1643-1645-1647-1649-1651-1653-1655-1657-1659-1661-1663-1665-1667-1669-1671-1673-1675-1677-1679-1681-1683-1685-1687-1689-1691-1693-1695-1697-1699-1701-1703-1705-1707-1709-1711-1713-1715-1717-1719-1721-1723-1725-1727-1729-1731-1733-1735-1737-1739-1741-1743-1745-1747-1749-1751-1753-1755-1757-1759-1761-1763-1765-1767-1769-1771-1773-1775-1777-1779-1781-1783-1785-1787-1789-1791-1793-1795-1797-1799-1801-1803-1805-1807-1809-1811-1813-1815-1817-1819-1821-1823-1825-1827-1829-1831-1833-1835-1837-1839-1841-1843-1845-1847-1849-1851-1853-1855-1857-1859-1861-1863-1865-1867-1869-1871-1873-1875-1877-1879-1881-1883-1885-1887-1889-1891-1893-1895-1897-1899-1901-1903-1905-1907-1909-1911-1913-1915-1917-1919-1921-1923-1925-1927-1929-1931-1933-1935-1937-1939-1941-1943-1945-1947-1949-1951-1953-1955-1957-1959-1961-1963-1965-1967-1969-1971-1973-1975-1977-1979-1981-1983-1985-1987-1989-1991-1993-1995-1997-1999-2001-2003-2005-2007-2009-2011-2013-2015-2017-2019-2021-2023-2025-2027-2029-2031-2033-2035-2037-2039-2041-2043-2045-2047-2049-2051-2053-2055-2057-2059-2061-2063-2065-2067-2069-2071-2073-2075-2077-2079-2081-2083-2085-2087-2089-2091-2093-2095-2097-2099-2101-2103-2105-2107-2109-2111-2113-2115-2117-2119-2121-2123-2125-2127-2129-2131-2133-2135-2137-2139-2141-2143-2145-2147-2149-2151-2153-2155-2157-2159-2161-2163-2165-2167-2169-2171-2173-2175-2177-2179-2181-2183-2185-2187-2189-2191-2193-2195-2197-2199-2201-2203-2205-2207-2209-2211-2213-2215-2217-2219-2221-2223-2225-2227-2229-2231-2233-2235-2237-2239-2241-2243-2245-2247-2249-2251-2253-2255-2257-2259-2261-2263-2265-2267-2269-2271-2273-2275-2277-2279-2281-2283-2285-2287-2289-2291-2293-2295-2297-2299-2301-2303-2305-2307-2309-2311-2313-2315-2317-2319-2321-2323-2325-2327-2329-2331-2333-2335-2337-2339-2341-2343-2345-2347-2349-2351-2353-2355-2357-2359-2361-2363-2365-2367-2369-2371-2373-2375-2377-2379-2381-2383-2385-2387-2389-2391-2393-2395-2397-2399-2401-2403-2405-2407-2409-2411-2413-2415-2417-2419-2421-2423-2425-2427-2429-2431-2433-2435-2437-2439-2441-2443-2445-2447-2449-2451-2453-2455-2457-2459-2461-2463-2465-2467-2469-2471-2473-2475-2477-2479-2481-2483-2485-2487-2489-2491-2493-2495-2497-2499-2501-2503-2505-2507-2509-2511-2513-2515-2517-2519-2521-2523-2525-2527-2529-2531-2533-2535-2537-2539-2541-2543-2545-2547-2549-2551-2553-2555-2557-2559-2561-2563-2565-2567-2569-2571-2573-2575-2577-2579-2581-2583-2585-2587-2589-2591-2593-2595-2597-2599-2601-2603-2605-2607-2609-2611-2613-2615-2617-2619-2621-2623-2625-2627-2629-2631-2633-2635-2637-2639-2641-2643-2645-2647-2649-2651-2653-2655-2657-2659-2661-2663-2665-2667-2669-2671-2673-2675-2677-2679-2681-2683-2685-2687-2689-2691-2693-2695-2697-2699-2701-2703-2705-2707-2709-2711-2713-2715-2717-2719-2721-2723-2725-2727-2729-2731-2733-2735-2737-2739-2741-2743-2745-2747-2749-2751-2753-2755-2757-2759-2761-2763-2765-2767-2769-2771-2773-2775-2777-2779-2781-2783-2785-2787-2789-2791-2793-2795-2797-2799-2801-2803-2805-2807-2809-2811-2813-2815-2817-2819-2821-2823-2825-2827-2829-2831-2833-2835-2837-2839-2841-2843-2845-2847-2849-2851-2853-2855-2857-2859-2861-2863-2865-2867-2869-2871-2873-2875-2877-2879-2881-2883-2885-2887-2889-2891-2893-2895-2897-2899-2901-2903-2905-2907-2909-2911-2913-2915-2917-2919-2921-2923-2925-2927-2929-2931-2933-2935-2937-2939-2941-2943-2945-2947-2949-2951-2953-2955-2957-2959-2961-2963-2965-2967-2969-2971-2973-2975-2977-2979-2981-2983-2985-2987-2989-2991-2993-2995-2997-2999-3001-3003-3005-3007-3009-3011-3013-3015-3017-3019-3021-3023-3025-3027-3029-3031-3033-3035-3037-3039-3041-3043-3045-3047-3049-3051-3053-3055-3057-3059-3061-3063-3065-3067-3069-3071-3073-3075-3077-3079-3081-3083-3085-3087-3089-3091-3093-3095-3097-3099-3101-3103-3105-3107-3109-3111-3113-3115-3117-3119-3121-3123-3125-3127-3129-3131-3133-3135-3137-3139-3141-3143-3145-3147-3149-3151-3153-3155-3157-3159-3161-3163-3165-3167-3169-3171-3173-3175-3177-3179-3181-3183-3185-3187-3189-3191-3193-3195-3197-3199-3201-3203-3205-3207-3209-3211-3213-3215-3217-3219-3221-3223-3225-3227-3229-3231-3233-3235-3237-3239-3241-3243-3245-3247-3249-3251-3253-3255-3257-3259-3261-3263-3265-3267-3269-3271-3273-3275-3277-3279-3281-3283-3285-3287-3289-3291-3293-3295-3297-3299-3301-3303-3305-3307-3309-3311-3313-3315-3317-3319-3321-3323-3325-3327-3329-3331-3333-3335-3337-3339-3341-3343-3345-3347-3349-3351-3353-3355-3357-3359-3361-3363-3365-3367-3369-3371-3373-3375-3377-3379-3381-3383-3385-3387-3389-3391-3393-3395-3397-3399-3401-3403-3405-3407-3409-3411-3413-3415-3417-3419-3421-3423-3425-3427-3429-3431-3433-3435-3437-3439-3441-3443-3445-3447-3449-3451-3453-3455-3457-3459-3461-3463-3465-3467-3469-3471-3473-3475-3477-3479-3481-3483-3485-3487-3489-3491-3493-3495-3497-3499-3501-3503-3505-3507-3509-3511-3513-3515-3517-3519-3521-3523-3525-3527-3529-3531-3533-3535-3537-3539-3541-3543-3545-3547-3549-3551-3553-3555-3557-3559-3561-3563-3565-3567-3569-3571-3573-3575-3577-3579-3581-3583-3585-3587-3589-3591-3593-3595-3597-3599-3601-3603-3605-3607-3609-3611-3613-3615-3617-3619-3621-3623-3625-3627-3629-3631-3633-3635-3637-3639-3641-3643-3645-3647-3649-3651-3653-3655-3657-3659-3661-3663-3665-3667-3669-3671-3673-3675-3677-3679-3681-3683-3685-3687-3689-3691-3693-3695-3697-3699-3701-3703-3705-3707-3709-3711-3713-3715-3717-3719-3721-3723-3725-3727-3729-3731-3733-3735-3737-3739-3741-3743-3745-3747-3749-3751-3753-3755-3757-3759-3761-3763-3765-3767-3769-3771-3773-3775-3777-3779-3781-3783-3785-3787-3789-3791-3793-3795-3797-3799-3801-3803-3805-3807-3809-3811-3813-3815-3817-3819-3821-3823-3825-3827-3829-3831-3833-3835-3837-3839-3841-3843-3845-3847-3849-3851-3853-3855-3857-3859-3861-3863-3865-3867-3869-3871-3873-3875-3877-3879-3881-3883-3885-3887-3889-3891-3893-3895-3897-3899-3901-3903-3905-3907-3909-3911-3913-3915-3917-3919-3921-3923-3925-3927-3929-3931-3933-3935-3937-3939-3941-3943-3945-3947-3949-3951-3953-3955-3957-3959-3961-3963-3965-3967-3969-3971-3973-3975-3977-3979-3981-3983-3985-3987-3989-3991-3993-3995-3997-3999-4001-4003-4005-4007-4009-4011-4013-4015-4017-4019-4021-4023-4025-4027-4029-4031-4033-4035-4037-4039-4041-4043-4045-4047-4049-4051-4053-4055-4057-4059-4061-4063-4065-4067-4069-4071-4073-4075-4077-4079-4081-4083-4085-4087-4089-4091-4093-4095-4097-4099-4101-4103-4105-4107-4109-4111-4113-4115-4117-4119-4121-4123-4125-4127-4129-4131-4133-4135-4137-4139-4141-4143-4145-4147-4149-4151-4153-4155-4157-4159-4161-4163-4165-4167-4169-4171-4173-4175-4177-4179-4181-4183-4185-4187-4189-4191-4193-4195-4197-4199-4201-4203-4205-4207-4209-4211-4213-4215-4217-4219-4221-42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DEDICATION.

present, if it would bear any other; but it being of such a Nature, as will admit of no other, I hope Your MAJESTY will be pleas'd to approve of the Conduct I observe in its behalf.

FOR it is most humbly conceived, That for the Reformation of whatever Abuses the World is at any time afflicted by, none but the Supreme Rulers of it ought to be Addressed to. And it is only to them we are to demonstrate, That it is absolutely impossible the World should live in any considerable Degree of Happiness, as long as (by the ill Explication of both Nature *and* the Bible, &c.) it has the Misfor-

DEDICATION.

Misfortune of being filled up with little else but Atheistical, Predestinistical, and other destructive Notions.

THIS I have thought my self in Conscience obliged hereby most humbly to represent to all Powers in *Europe*, but especially to Your MAJESTY, who, by very manifest Proofs, appears to have nothing more at Heart than the Felicity of the World in general, as well as of his People in particular. Wherefore I have room to believe Your MAJESTY will be pleased to approve of my Undertaking, and to protect the Remedy I have laid down for such Abuses as would keep the World

D E D I C A T I O N.

in an everlasting Disturbance
and Confusion. And I don't
at all doubt, but as soon as
Your MAJESTY has thought
fit to have it put in Practice,
all the Powers in *Europe* will
follow Your MAJESTY's most
Noble Example. I am, with
the most profound Respect, and
most sincere Devotion,

Your MAJESTY'S

Most Humble, and

most Obedient Servant,

John Conrad Francis
de Hatzfeld.



THE
PREFACE.



IT is a Thing too manifest by any Body to be questioned, that notwithstanding every Man is both in Reason and Justice oblig'd to be as well for the good of the Publick, as for his own, we find it a very common Proverb, *Every one for himself, and God for us all.* And though there is nothing more laudable in a Man than Honour and Integrity, we find it a very common Proverb, *The World is a Cheat, and he that has no Hand in it is a Fool.* And though it is certain, and in it self undeniable, that there is nothing more worthy in, nor more required of a rational Creature, than to own and worship his Creator, and

The P R E F A C E.

to esteem, and live in a perfect Friendship with his Fellow-Creatures ; we, nevertheless, very commonly see the one denied, and the other made a Jest of, even to so prodigious a Degree, that as soon as a Man of Honour and Discretion undertakes to defend those most important and most salutary Points, and to live accordingly, he is by that perverted sort of People lookt upon as a mere Enthusiast. And that Corruption of Humane Nature we find to be arrived to so very great and dangerous an Extent, that even those who should be most free of it, are most infected by it ; wherefore, there is no wonder we see the World in a continual Disturbance and Confusion.

And so deplorable a Condition of the World, should all along have been the Business of Philosophers to find a remedy for, but instead of so doing, they have spent their time in calculating Eclipses, and other such like Amusements, as are of no manner of Service, neither to God nor to Men. And I don't at all doubt but none ever having (either for want of Ingenuity or Integrity) made so important an Attempt, all those who are yet in being, (chiefly Sir *Isaac Newton* and his Disciples) will pretend it to be a Madness in me to pretend to
any

The P R E F A C E.

any such Thing, and instead of approving of the Remedy I have laid down for it, they will (according to the common Custom) ridicule it. For as scarce any Body ever will own himself to be the Author of any despicable Action, so almost every one would be the Author of whatever deserves some Admiration. And therefore we very commonly observe amongst the ambitious Part of the World, that as soon as ever any one is accus'd of a Fault, he will do what all he can to defend it, if he was never so much convinced of his being justly accus'd. Likewise as soon as any such Person sees something admirable produc'd by another, he will rather ridicule it, than own it to be what it really is, only because he has no Share in the Production of it. And as long as such like Men are at the Head of Arts and Sciences, and so come to be the Tutors of their Posterity, and the prejudice of Education being unextinguishable in most People, it will be absolutely impossible to see Arts and Sciences come to their point of Perfection, and to enjoy the Benefit thereon depending. For as long as the want of being brought to perfection, the World will not only be depriv'd of the many things yet to be discovered, for common Use and Service,

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vice, but it will likewise be afflicted with an endless Disturbance and Confusion, occasioned by the destructive Notions those Sciences which the World is rul'd by, are infected with.

FARTHER it is to be noted, that what besides the said Reasons makes Errors take and continue in the World, is the Negligence and Want of Penetration we observe in most People. And Errors most generally being of a more diffuse and obscure Nature than Truth, they therefore, by that sort of People are sooner received than the most evident Truths. Because to them the most diffuse perplex'd and obscure Things, seem to be of the most excellent and skilful Nature, and the more they include something marvellous, the more that sort of People is in love with them. And this it seems has been the lucky chance of *des Cartes* and Sir *Isaac Newton*, but chiefly of the latter, whose Notions most generally being as Marvellous, as they are Erroneous, they have by such like Men been received as divine and miraculous Productions, whereupon it has been very easy for them to be receiv'd for such, by Men of Sense, because they have trusted the Judgment of those who were the first receivers of them, and so have
taken

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taken every thing for granted, without at all examining into the Matter.

ANOTHER Reason why the World has so very easily and zealously receiv'd that most famous Author's Productions, is, because he has grounded them upon Experiments, Geometry, Arithmetick and Elegancy, not considering that Experiments may be made blindly, Geometry and Arithmetick, or Mathematicks ill applied (as he in most places appears to have done) and of consequence a Proposition may be built upon both Experiments and Mathematicks, and deliver'd with all the imaginable Elegancy, and may nevertheless be as erroneous as possibly can be. When, I say, Mathematicks on this occasion, I mean the ill use made of Geometry and Arithmetick (the Principles of Mathematicks) for otherwise I take the word Mathematick, to signify a self-evident and undeniable Truth, as two times two undeniably make four, and two times the Space of half an Inch undeniably make a whole one. Which, and the like propositions I shall always be ready to take them for granted, but whatever else I find propos'd by any Mathematician, I shall draw it in question; for I have met with Errors amongst them almost as visible as two times two are

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to make four, nevertheless they have put them down for undeniable Truths.

I HAVE put the most inferior, (that is to say, the mechanical) Part at the Head of the present Treatise; because the perpetual Motion it only concerns, was the first Subject that engaged me to apply to the Royal Society, for to acquaint them that according to the Experiments I have made towards that Master-piece, all those who pretend it to be impossible are mistaken. And to render my Philosophical, &c. Discoveries in so much more Authentick, I design'd to accomplish that pretended impossible Piece of Work, before I would declare to have made such Discoveries in Philosophy, as are generally lookt upon to exceed humane Capacity, as well as the making of a perpetual Motion. But my Convenience having not yet allowed me to execute my Resolution, and the Disbelievers of the Possibility of that Invention (as well as of whatever else exceeds their Capacity) having all along made a Jest of what I have advanced in Favour of it, I thought fit to produce the following Heads of the Discoveries I have made in Philosophy, &c. as well as in Mechanicks, for to disamuse the World so much the sooner, by shewing all those irreconcilable

Infidels

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Infidels to be guilty of much greater Errors in Philosophy, than in Mechanics, notwithstanding they pretend to be perfect Masters of both. And as I shall further prove the Truth of what I have advanced in respect to Philosophy, &c. so I shall further prove the Truth of what I have advanced in respect to that most excellent Piece of Mechanics.

WE have Reason to blame those of the ancient Authors who did pretend every Thing to be really possible, what they did without any reasonable Grounds fancy so to be; but I think we have much more Reason to blame those of our modern Authors, who pretend every Thing to be impossible that exceeds their Capacity. For though it be a very extravagant and impossible Thing in whomsoever pretends to render Men immortal, as *Alchemists* commonly pretend to do, (by their imaginary universal Medicine,) yet it has been the Occasion of very useful Discoveries in Physick. And though the making of *Gold*, and the finding out the *Longitude* seem to be as impossible, yet the searching for one another has been the Occasion of very useful Discoveries both in Metals and Navigation, which otherwise would *perhaps* never have been brought to
Light:

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Light: But as soon as a Thing is universally lookt upon to be impossible, we are sure of its never coming to Light, nor any Thing relating to it. And though there is a great deal of Money spent in vain by searching for the Discovery of those, and other such like occult and difficult Things, there is never any of it carried out of the World, but always comes to be a Benefit to some Body or other; why then should any reasonable Lover of publick Good pretend (directly or indirectly) to discourage those who are of a searching Inclination? And suppose one or other of them to be so immoderate in the Matter, as to carry his Enquiry beyond his Estate, let him have it for his Pains.

No doubt but all those who are direct or indirectly touched by my Proceedings, will complain of my Severity; but I will rather hear a Complaint about that, than to omit of giving every one his just due. For though Clemency, Modesty, and Disimulation be very excellent Vertues, as long as they are duly applied, they nevertheless come to be vicious and criminal as soon as they are carried beyond their proper Limits; and a Crime committed by Omission, is in it self as bad as a Crime by Com-

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mission, and as long as a Man is subject to either, he is not fit to set up for a Judge, chiefly in Philosophical Cases. They will be ready to do what all they can to justify their Case, but for their own Credit sake I advise them to be quiet; for the more they will endeavour to make it good, the more they will expose themselves. For though I have compos'd this Treatise in a hurry, I don't believe they will be able to say one word of Truth, or common Sense against all what I have advanced.

I HAVE been very short in the Matter, partly, because I only design this as an Introduction into what I shall hereafter produce. And partly, because I don't design to confound my Readers by the Ambiguity of a long discourse as most Authors use to do. And I shall always look upon an Author who produces a long winded Discourse about whatever Subject he writes upon, not to have known any thing of what he was about, or else to have design'd to impose upon the World. For there is nothing more simple, nor more self-evident than Truth, and of consequence nothing can require less Words to be demonstrated than Truth. And I have room to believe, that all equitable Lovers and Judges of Truth will find, and
confess,

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confess, as some (by perusing the Manuscript) have already confess'd this small Treatise to contain more Truth, (and of consequence to be more capable of giving Satisfaction to such like Readers,) than all the Volumes hitherto produc'd on whatever Subject it does directly concern. And tho' the Soul is touch'd by less than a dozen of Lines, I dare engage the Immortality of it, will to all such Readers appear to be more evidently prov'd by them, than by all what has yet been produc'd on that important Head.

AND though I have directed my Discourse to the Royal Society, as the most learned Part of the World, I have us'd such a Style as will render it intelligible to the Unlearned, as well as to the Learned; for those who are least versed in Studies, being in the mean time less prejudiced, they will be more able to judge of the Truth and Benefit of what I propose, than those who are blinded by the vain Opinion they have of the Errors received in their Education. As for the *English*, it would be very vain in me, as a Foreigner, to suppose it to be perfect; yet I believe it will be found to be very well for the first Thing I ever did write in the Language of a Country I always had a native Esteem for.



LETTER I. PART I.

*Shewing the Possibility of making
a perpetual Motion, and that
it is only for want of a true
Knowledge of the Nature of
Things, and the false Conclusions
Mathematicians have drawn from
the Observations made by the Ba-
lance and Pendulum, that they
have declared it to be impossible.*



TO THE
ROYAL SOCIETY.

GENTLEMEN,



HEREAS the Subject of
the perpetual Motion has of
late Years been most in Agi-
tation amongst the ingenious
and learned World, for to
know whether it is possible to be made or
not; and all Mathematicians having declared
B them,

themselves for the Negative, I have thought proper to lay before you the Progress I have made towards that Master-piece, in answer to the most essential Objections hitherto made against it, and to shew the Motive that made me go about a Thing so universally rejected.

MOST Mathematicians, when asked, Why they think it impossible to make a perpetual Motion? They answer, Because Matter or Bodies are incapable of Self-motion, which to me is an Objection so far from making the Thing impossible, that it is the only which makes it possible. For, if Bodies were capable of Self-motion, every one would endeavour to follow his own particular Direction; and so, instead of constituting any thing of a regular and perpetual Motion in a Machine, they would only put it into Confusion. Wherefore, if the Nature and Order of Things were in the least different to what they are, it then would be entirely impossible to make a perpetual Motion; but they being as they are, the Thing seemed to me to be possible at the first thought I spent towards it. And my Argument was and remains thus; That all Bodies tending, or being attracted towards the Center of the Earth, there is nothing
else

all to be done but to compose a Wheel of a Number of moveable Weights, and to contrive them so, as that when one begins to lose his ascending Force, another might begin his descending Force, and thereby alternately raise or help one another to pass the Perpendicular, or the Angle in which they begin their descending Force, and so to prevent each other from entering into their Center of rest ; and this I have found to be possible, as it will appear by the two following Articles, one of which relates to the Balance, and the other to the Pendulum.

By the Balance, Mathematicians having observed, that a Pound raises but a Pound, and none having ever been able to find a way to raise a great Weight by a little one, without losing either Time or Distance in Proportion, they have concluded, That no Body would ever find a way to raise a great Weight by a little one, with any Advantage ; and therefore they all look upon it to be nothing but a meer Ignorance and Madness, or a designed Imposition by whomsoever pretends to arrive at that point, and to be capable of making a perpetual Motion by it ; which to me is a very imprudent and ill-grounded Assertion. For tho' most People don't care how far they impose up-

on the World, in favour of their own Ambition and Self-interest, it is no conclusive Argument at all, that every one should be of the same Inclination. And on the other hand Experience shews us every Day, that Things which appear to be entirely impossible to one, are very possible to others. And what is a profound Mystery to one, lies very open to another; therefore, in my Opinion, no Body ought to limit another Man's Genius according to his own, however excellent it be. For the Discovery of the Cause of Gravity and Attraction, &c. which has hitherto been lookt upon to be as far beyond human Capacity, as the raising of a great Weight by a little one, &c. nevertheless, I dare (without any manner of Vanity) say, to have discovered it with all the ease imaginable. And so have I found the way of raising near a Pound and a half by one Pound in a Horizontal Situation, and their Center of Motion at equal Distance, and without employing a second of more time, than by raising a Pound by a Pound; and what shews it to be a Thing without any manner of Deceit, nor an Experiment made in a blind manner, is the consequence it is followed by. For by the two Movements, or Machines, in a Wheel of eight
Foot

Foot, I have some time since invited all Mathematicians to see, I wanted three Foot of bringing it to make a Revolution ; and after I had made the necessary Addition to the said two Movements, or Machines, for to raise a great Weight by a little one, I increased the revolving force of the Wheel so far as to make a Revolution within only two Foot. Which is a very plain Demonstration, that what I call the raising of a great Weight by a little one, with Advantage, is Fact ; for otherwise the revolving force of the Wheel would have been diminished, instead of being increased by the said Addition. And this being the way I pretend to make the perpetual Motion by, it seems to me that there is all the Probability that can be desired for the Success of it, as it will more evidently appear by the following Article.

MATHEMATICIANS having observed, by the Pendulum, that (because the Friction and Resistance of the Air) never any Body ascends to the same Degree it falls from, they have concluded, That never any Man would be able to overcome that Obstruction, either by a single, or by several Weights together : Which I have likewise Experienced to be as groundless a Conclufi-

on, as that which they have drawn from the Balance, &c. For when I had but the said two Movements, or Machines, in my Wheel, it wanted three Foot of making a Revolution, and after I added two more to them, it made a Revolution within only one Foot and a half. Which is a very plain Demonstration, that according to the Addition of such Machines, I increase the revolving force of the Wheel, and make the Weights ascend nearer to the Degree they fall from. And the principle I work upon being thus; that as soon as I bring the Wheel to make but one Revolution, it can cease no more. And the Nature of the said Movements or Machines being so, that the Wheel may contain sixteen of them, whilst according to what has been observed, I want but eight, it seems to me that I have a very fair way to make a perpetual Motion, and that there is but the false Conclusions Mathematicians have drawn from the Observations made by the Balance and Pendulum, &c. and the want of a sufficient Genius, or Enquiry of those who have without Success attempted that Master-piece, that the Production of it has been retarded till this present Age. And that those who have hitherto made a Jest of the Testimony His Serene Highness the

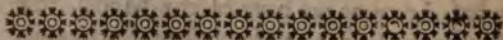
Landgrave

Landgrave of Hesse-Cassel, has been pleased to give in-favour of it, as well as of my pretending to it, have had no other Motive, but their Jealousy, or else they have not known what they said. For according to what Account we have of the Model, that Illustrious Prince, and excellent Encourager of all Arts and Sciences, has in his Possession of Dr. *Orfireus's* making, I am very well satisfied of its being a real perpetual Motion, as well as I am satisfied to be capable of making one my self. And, Gentlemen, to know hereafter who has been too short in the Matter, I, or my Adversaries, I desire you would be pleased to let this remain as a Witness of what I have the Honour of asserting to you at this instant *May 6. 1723.* For though I am but a Novice in Studies, I am very sure I shall in a little time shew more Truth to the World in Philosophy, as well as in Mechanicks; and as I actually have, so I shall still produce more towards the good of the Publick, than any one of my Adversaries has, or ever will be able to do. And, Gentlemen, if you please to see the Experiments I have made towards the Subject here in question, which for the sake of your own Satisfaction, I do invite and desire you to see, and examine into the

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Truth

Truth of, and then without doubt you will find that I don't pretend, nor never shall pretend to any Thing, but what I can shew sufficient Grounds for.



P A R T II.

Shewing Dr. Orfireus's Machine to be a real perpetual Motion, &c.



WHAT surprizes me most in regard to the Disbelievers of this Invention, are the Reasons they give for their (very! unpardonable) pretending the Model which has been made of it, at the place above-mentioned, to be a Cheat. For Mr. Rowley, the King's-Master of *Mechanicks*, and all other Persons I have yet spoke to, that have seen it, protests there is no external Force operating upon it. And this being true, I am (without the Testimony which the said very worthy, ingenious, and learned Prince has been pleased to give in favour of it) satisfied of its being a real perpetual Motion, contrived by Weights moving

ving from and towards its Center, without the help either of Clock-work, Air, or Water, &c. one of which they pretend to have a share in it. But Clock-work being the most probable, and likewise most believ'd to have a share in it, I shall only mention the following Instances against it, whereby it will soon appear how weak it is, in any thing of a Mathematician to pretend it to be mov'd by the help of any of the said means.

SINCE by several competent and impartial Judges, who have seen and examin'd into the Axle Trees, as well as into the whole external Body of the said Machine, we are sure that there is no external Force applied upon it, there is but two different ways of Clock-work that could be supposed to have a share in its Motion, one by a Spring in its Center, and the other by the help of several Clock-works, lodg'd within the Body of the Wheel; but according to the Nature of the Thing, neither one of those ways can possibly have any share in it. For if the Wheel did move but one way, one might think its Motion to be effected by a Spring in its Center, but it moving both ways alike, there would be occasion for two Springs,
one

one to move it one way, and another to move it the other way; which is a thing utterly impossible. For if there was two Springs they always would resist one another, whatever way the Wheel could be set to move; so that it would be no more able to move than a solid piece of Wood.

Now supposing the Wheel to be mov'd by the help of Clock-works, it would not be able to move, as it does, in several degrees of Velocity; but it would be absolutely necessary, always to continue in a degree of Velocity answerable to that of the Clock-works. For if the Wheel did move either slower or swifter than the Clock-works could move the Weights from and towards its Center, it would either ways come to pass, that the Clock-works would turn the Weights, sometimes for, and sometimes against the Motion of the Wheel; so that it would soon be brought into an entire Confusion. For sometimes it would, by the said Weights, be inclin'd to move one Way, and sometimes the other Way, but it would never be able to make one single Revolution.

Thus would be the consequence, if the said Machine was contriv'd according to the weak Sense and Understanding of those who pretend it to be mov'd by the help
of

of Clock-work. And those who pretend it to be mov'd by Water, or Air, &c. one of which (meaning Water) even our most famous Author, did in the beginning affirm it to be mov'd by, is so very weak that I don't at all think it deserving to be answer'd.

AND what is still worse is to see some pretend the thing to be a Cheat, without giving any Reason at all, why, or after what manner it possibly can be so. A manner of proceeding, which is neither consistent with Equity, nor common Civility, nor indeed with common Sense! And as long as Arts and Sciences have the Misfortune of depending on the Direction of such like Authors, it is impossible but they should be filled up with all the vulgar Errors they appear to be.

PHILOSOPHY is most generally, and chiefly by such Philosophers as we have here to deal with, pretended to have, in our Age, been carried nearer to its Point of Perfection, than ever it was, and as near as humane Capacity will ever allow it to be brought; but I shall make it sufficiently appear, that there is yet more Truth behind the Hill, than ever has been brought to Light, and that this Science has never been filled up with so many Chimeras, Absurdities,

Absurdities, and Contradictions than it now is. As to natural Religion, which they likewise pretend to be establish'd better then ever, I shall make it appear visibly enough, that Libertines have as much room at present to support their Atheistical Notions, as they had at the time of *Democritus* and *Epicurus*.

FOR to pretend to prove the Existence of God, and to establish natural Religion by such means, as shock both Nature and Reason (as even our most famous Author and his Followers appear to have done) is doing more Hurt than Good in the matter. For to manage that most important Point rightly, we must prove God to be the most active, powerful, wise, good, and most glorious, &c. Being of all Beings, and not to be an unactive, powerless, whimsical, cruel, infamous, and despicable Being, as he does, by the said Philosophers Writings appear to be. And as absurd and contradictory they have render'd the Existence of God, so they have render'd almost every Thing they have meddled with, and after all, they stile one another great and divine Men, and find themselves very much affronted, and full of violent Replies, as soon as one presumes to say any thing against their infamous and destructive Notions; and when

when even a very worthy, ingenious, and learned Prince, does, upon his Word and Honour, affirm a self-evident Point of Truth, which they are ignorant of, they make it no manner of Scruple to call him a designed Impostor, rather than to suspend their ill digested Principles, by which they pretend to be authoriz'd so to do. And does not all this prove their want of Manners, as well as their want of Discretion and Equity? And is not this the way of discouraging Ingenuity, instead of encouraging it? And don't all such unworthy Adversaries likewise expose their Ignorance to the highest degree, by pretending, even to the greatest detriment of the Author above-mention'd, not to have any room to believe the Truth he asserts in his Machine, for want of having seen the inside of it? For at that rate, any Body that never meddled with Mechanicks would be able to judge of the Truth of the Matter; and as long as such like Mathematicians appear to see no farther than any Body else, I think it very unworthy in them to take up with a Profession so far beyond their Capacity, and to pretend to instruct the World of what they themselves never came to know any thing of.

By what has been said, it will sufficiently appear, that I don't appeal to such Dis-believers

believers as I have here to deal with, but only to those who are willing to protect a self-evident point of Truth, and to value the Testimony a very worthy Prince has been pleas'd to give in favour of it, more than all what such unworthy Fellows of this illustrious Society have to say against it.

No doubt, Gentlemen, you will think my Discourse very severe, as I do my self own it to be;—but not so severe as those whom it concerns do deserve it, as you will own your selves, as soon as you have been pleas'd, seriously, to examine into what has been observed, and to consider, that it is by the Notions of such like Men, the World receives more hurt than good. For I am very well satisfied that the greatest part of all the Disturbances and destructive Confusions, we see *Europe*, from one time to another, afflicted by, are owing to the ill Progress hitherto made in those Sciences the World is ruled by. And as long as such like Men don't care how far they impose upon the World, I think it would be but a piece of Injustice in me not to expose them according to their Merits, and to protect such Truths against them, as I am entirely satisfied of. I am,

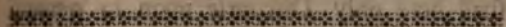
GENTLEMEN,

*Your most Obedient
Humble Servant,*



LETTER II. PART I.

Shewing the true Way of proving the Existence of God, and that Sir Isaac Newton, instead of having proved that most important Point, and establisht Natural Religion better than ever any Philosopher did (as he and his Disciples pretend) they have together with their Author, and his like Predecessors disproved it, and overturned both Natural and reveal'd Religion.



TO THE ROYAL SOCIETY.

GENTLEMEN,



IN the foregoing letter my design was only to shew the most important Errors, the learned of our Age labour under, in respect to Mechanicks; and in this, my design is to shew those they labour under,

under, in respect to Philosophy. And as in the foregoing I have prov'd the Possibility of the perpetual Motion, and likewise the Truth of the Testimony -his serene Highness, the *Landgrave of Hesse Cassel*, has been pleas'd to give in favour of the Model Dr. *Orfireus* has made of that Invention; so I shall here prove the Truth of what I have there asserted in respect to Philosophy, chiefly in so far as it regards natural Religion. And as I have there prov'd the Objections hitherto made against the perpetual Motion, to be built upon false Grounds, so I shall here prove Natural Religion to be built upon false and infamous Grounds; as it will most evidently appear by the following Heads, which I shall here only Discourse upon in general Terms, and leave the Particulars to a larger Treatise, I shall produce, as soon as my Conveniency will allow it.

ALL those who know any thing of Philosophy, are without doubt satisfied, that Gravity is generally (and chiefly, by Sir *Isaac Newton*, and his Followers) denied to be essential to Matter; which I shall not only prove the contrary of, but I shall likewise shew the Properties in Matter, on which that Principle depends, to be the most *evident* and most glorious Means to prove the
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the Existence of God; and to establish Natural Religion, and that the false Hypotheses they have produced in the room of those very manifest and evident Means, has thrown them into all sorts of Absurdities and Contradictions. For when we allow the different Temperaments we perceive in Matter, to be essential to Matter (as they really are, and on which Gravity chiefly depends) we presently do thereby see, that there could never have been such a World as that we live in, if there was not an omnipotent Being, by whose Power and Wisdom it hath been formed.

For since by the numerous burning Mountains, and boiling Wells, we are satisfied, that the Bowels of the Earth are in a continual Fermentation, and that by this Principle, Bodies are subject to fly from each other, instead of approaching one another; it is most evident there could never have so many Particles come together, as to compose the Earth, or any other Planet, &c. if it was not by the Hands of an omnipotent and ever-living Agent they have been joined together. And much less would there have been any such Thing as the Sun and Stars, which (by their Light) appear to be subject to a much more violent Fermentation than the Earth, &c. and though the different Degree of Heat and

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Cold

Cold in Matter (on which Gravity chiefly depends) be so much against the forming of the Parts belonging to that wonderful Machine, it was so absolutely necessary to endue Matter with those Properties, that without them there would never have been any Motion at all in the World, without God Almighty's immediate and continual Operation, to which Philosophers, and chiefly Sir *Isaac Newton*, and his Followers, do in the most unpardonable manner, attribute all the Effects we see produced in the World; but what infamous a consequence that Pretension is followed by, will soon appear by the following irresistible Arguments.

FOR as soon as we do but in the least examine into that Pretension, we thereby find God undeniably to be made the Author of all Evil. For there is nothing more certain, but as soon as we allow God to be the immediate and continual Cause of all Effects we see produced in the material World, we must of consequence allow him likewise to be the immediate and continual Cause of all Effects produced in the spiritual World, because there are but two different Motives, for which God can possibly be supposed to have reserved to himself all the Effects we see produced in the material World, one of which

which is Pleasure, and the other Necessity ; and whoever allows one or other of them in respect to the material World, it is absolutely impossible for him to do otherways in respect to the spiritual World. For if in respect to the material World, God wanted Skill and Wisdom, to put Nature in such a Capacity, as to produce all Effects, without his immediate and continual Assistance, it is most certain that he wanted the same Perfections, in respect to the spiritual World, which without doubt required infinitely more Skill and Wisdom than the material World. And if we suppose God, out of Pleasure, to have reserved to himself all the Effects we see produced in the material World, it is equally necessary to suppose him to have done the same in respect to the spiritual World : For as the spiritual World exceeds the Material in Skill and Wisdom, so it does exceed it in the Diversity of Amusements ; therefore, if God had any Pleasure in the Operations of the material World, he would have infinitely more in those of the spiritual World.

B^r what has been said, it being indisputable, that according to the said Philosophers, God must be allowed to be the immediate and continual Cause of all Effects

in the spiritual, as well as in the material World; let us see the consequences that Notion is attended by, where we shall find, that as soon as any Body of a weak Capacity comes to be possessed by such a Notion, as persuades him to be but a necessary Agent, it will without doubt plunge him into the most profound Predestinism. And as soon as Libertines come to perceive God to be so entirely confounded with Nature, as he is by that Philosophy, there will be no difficulty at all for them to embrace the Opinion of the most famous Atheist.

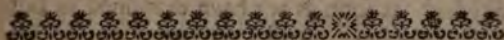
BUT as on all Occasions, People are ready to deny their Faults, excepting they are proved too plain upon them; I don't at all doubt of meeting with the same Chance here, wherefore it will be necessary for me to appeal to some places, where it appears in very direct and undeniable Terms, that they really believe God to be the immediate and continual Cause of all Effects in the spiritual, as well as in the material World. For the late famous Archbishop of *Cambray*, in his *Existence of God*, pag. 178, &c. it is express in very direct and undeniable Terms, that according to him, the Judgment of Men, is independent and above Men; which, if it was true, the same would of consequence follow

follow in respect to all other noble Faculties of the Soul. Sir *Isaac Newton*, though he has not expressed his Thoughts so directly on that, nor any other Occasion, it appears plain enough, that he is of the same Opinion with the said Prelate. Mr. *Cheyne* in his *Philosophical Principles of Religion*, pag. 50. tells us, in very direct and undeniable Terms; that as the Attraction of the Sun had put, and did continue the Planets in their Motion, so the Attraction of God did animate and attract the Will of all the spiritual Beings towards the Worship of his Divine Majesty; which altogether shews plain enough, that according to them, and their like, the Soul is no more able to act without the immediate and continual Assistance of God, than the Body is able to act without the Assistance of the Soul. And suppose God, according to the said Mr. *Cheyne*, continually to animate and attract the Soul towards the Worship of his Divine Majesty, what Satisfaction could God have by so forced a Veneration? Which would be just like, as if a King did pull his Subjects by their Ears for to come and pay their Homage to him, and as unreasonable it would be to suppose such a Homage to be agreeable to a King, as unreasonable it is to suppose a

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Worship

Worship effected after the said manner to be agreeable to God Almighty. And how could Men be capable of a due and free Worship, without being in Possession of all the necessary Faculties belonging to it? And what Justice would it be in God to have prescribed any Laws to Men, and to have charged them upon their Eternal Unhappiness to live accordingly, if he had not provided them with all the necessary Faculties required so to do? Besides, if Men were obliged continually to borrow what Judgment and other Faculties they have occasion for, to act, either in respect to Divine Worship, or in respect to any other Proceedings; where would at that Rate be the free Agent? And who else but God would be to be blamed for all the Infamies we observe amongst Men, if he himself was the immediate and continual Cause of their Effects? And as soon as that Philosophy comes to infect the World a little more than it has already done, where will be both natural and revealed Religion? And they being destroyed, where will be publick Tranquillity, and every ones private Felicity?



P A R T II.

Being a Dissertation upon the Dispute between the late Learned Mr. Leibnitz and Dr. Clarke, shewing, The latter instead of having well succeeded in that Affair, as it is generally believed, he has run himself into several very direct Contradictions.



THE late learned and very worthy Mr. *Leibnitz*, did in some measure perceive the ill consequence of that unhappy and destructive Philosophy, and did very justly complain of the Proceedings of Sir *Isaac Newton*, and his like; but not having pursued his Objections close enough, he has given Dr. *Clarke* room to adorn the Case of his Author, with a seemable Wisdom, Justice, and Devotion; tho' it is in it self perfectly chimerical, infamous, and contradictory, as we shall be sufficiently

satisfied, as soon as we have examined it but a little farther. And I am very much surprized to see Dr. *Clarke*, to have so zealously defended a Philosophy, the best Fruit of which can be nothing else but downright Predestinism, which is very little better than Atheism ; nevertheless, we see him pretend, the suppressing of it would be the way of banishing God's Providence out of the World, and that without such infamous and destructive Notions, as that Philosophy is filled up with, the World would be in respect to God Almighty, just like a Kingdom without a King, a Pretension, which it self includes nothing but Contradiction, as we shall soon be satisfied by the following Arguments.

THE Signification of the word Providence, being to foresee, and to provide for what one foresees ; there is nothing more certain, than to pretend God Almighty to have foreseen, and made Provision of all what may be necessary in the World, during the time it is to stand, and so to have enabled Nature to continue every Thing in the State and Order we see it in. (without requiring the Assistance of his Author, any further than what relates to Morality, or supernatural Effects) is protecting Divine Providence, instead

Instead of banishing it out of the World, And to the contrary, Sir *Isaac Newton*, and his like, do themselves banish it out of the World, by denying God to have foreseen, or made Provision of all what is necessary in the World, as they do by pretending God to have produced it in such an Imperfection, as not to be able to subsist the least Space of time, without his immediate and continual Assistance, and this unpardonable Pretension we see in very direct and undeniable Terms, in the *English* Translation of the said Author's *Mathematical Philosophy*, pag. 349. &c. And does not that infamous and contradictory Notion pretend God in Proportion to be infinitely less skilful than any of the most inferior humane Artist? For even a *Jack-maker* produces a Machine, which requires to be touch'd but now and then; and according to that pretended Divine Philosophy, God Almighty is obliged continually to work in his, for to keep it in Order and Motion. And I would fain know, what this Author, and his like mean, by the infinite Wisdom they ascribe to God, after they have entirely denied it by so unpardonable a Pretension; and nevertheless, according to most Partisans of that Philosopher, it seems one should be sprinkled with Holy Water before

before one presumes to say any Thing of him, or his Writings.

Now after we have observed how far Dr. *Clarke* has been mistaken in respect to the word Providence, let us see how far he is mistaken in respect to the word Government; where we shall find him to have been at a loss as well as in respect to the word Providence, &c. for a Man must needs be a very indifferent Politician to take the word Government to signify a King to be the Mover of his Subjects, as long as Experience shews him to be but the Director of them; nevertheless, the comparison of Dr. *Clarke* will have him to understand it so. For according to Sir *Isaac Newton*, and his like, God is not only the Director, but he is likewise the Mover, &c. of the whole Universe, and every part belonging to it. But suppose Dr. *Clarke* to have taken the word Government in its true Sense, the Comparison will still appear to be of a very wrong Application; for according to Sir *Isaac Newton*, and his like, God directs every Thing in Person, which is much more then we observe to be done by any King, nor don't I suppose any Body of common Sense would think it suitable to the Majesty of a King, to see him, in Person take up, with
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all the Functions annexed to the Government of his Kingdom, supposing it to be possible for him so to do. Nor could any Body of Discretion think it to be consistent with the Wisdom and Prudence of a King, to appoint such Agents in his Kingdom, as might be incapable of executing his Laws, and thereby to oblige himself to be their Assistant, for to prevent whatever destructive Confusions they might occasion in his Dominions. But I believe every Body of Sense and Reason, would think it consistent, with the Wisdom, Justice, and Majesty of a King, to see him establish, in his Dominions, such Laws as might be perfectly salutary and infallible, and to appoint such Agents as might be able to execute them without requiring his continual Assistance; but only have his supreme Eye every where, to see whether or no the Execution of his Will is duly observed, and to reward every one of his Subjects according to his Merit, and to expect of them the Homage due to his Majesty.

Now, if according to what has been observed, no discreet Body would think it suitable to the Majesty of the Governour of a Nation, to see him in Person take up with all the Functions annexed to his Govern-
ment;

ment ; how then can any Philosopher, worthy of that Name, think it suitable to the Majesty of the Creator and Governour of the Universe, to take in Person up with all the Functions Sir *Isaac Newton*, and his like, do attribute to his Divine Majesty ? And what Prince would think it agreeable to accept of the Government of a Nation, if there was more Trouble than Homage tied to it ?

AND what discreet Being would not conclude God to have created the World, for to manifest his Existence, Power, and Goodness, and to have carried every Thing in it to his Point of Perfection ? For to be in so much more admired for so doing by the Creatures he has prepared in it, for the worshipping of his Majesty, than to suppose him to have created it only for to meet with some Amusement in it, and to have therefore left every Thing in the Imperfection the said Author pretends to, only for to meet with so much more Occupation, and to have thereby exposed himself to the critick of worthless People, as an Example has been seen by one of the Kings of *Castile*, who on Occasion of the *Ptolomaick* System, said, “ That if God had called him into his
“ Council; when he went about the Creation of the World, he would have given
“ him

“ him an Advice, how to make it much
 “ better then he did, by that System, find
 “ it to be made”. And if the same King
 did yet live, would he not have much more
 Reason so to say, in respect to the System
 of Sir *Isaac Newton*? For however ridicu-
 lous the *Ptolomaick* System be, it is very far
 from being so ridiculous and fatal, as to
 threaten us every Moment with the De-
 struction of the World, as that of Sir *Isaac*
Newton; which, as it is said in very direct
 and undeniable Terms, in the *English* Tran-
 slation of his *Mathematical Philosophy*, pag.
 349. “ It would not be able to subsist the
 “ least Space of Time, if it was not for the
 “ immediate and continual Interposition of
 “ God Almighty”.

I MUST confess, that if any Body had fore-
 told me this Science to be filled up with so ve-
 ry infamous and contradictory Notions, as we
 have already observed, and as we are yet go-
 ing to observe, I could never have believed
 it without an Eye-witness; nor could I
 persuade my self, that the Producers of
 them have in the least consulted either Na-
 ture or Reason, or else they have been void
 of Reason, or they have had nothing else in
 view but their Vanity, and therefore have
 only endeavoured to produce something new.

for to obtain the Admiration of Ignorants, not caring whether their Productions were true or false, salutary or destructive; for otherways it would have been utterly impossible for them to produce Notions so directly against Nature and Reason, and likewise against the Glory of God and the Felicity of Mankind, as almost all those who have been produced even by the most famous of our modern Authors. For the ancient Authors have had that Modesty, as not to meddle with things they found to be entirely beyond their capacity, but some of our modern ones have had the Vanity and Assurance to make the World believe there was little or nothing beyond their Capacity, when in the mean Time they have proved almost every thing to have been beyond it.

DR. CLARKE has made it no Scruple at all to reckon the worthy Mr. *Leibnitz* amongst the number of Atheists, for his having declared God to be an *Intelligentia supra-mundana*, but I must confess that he has even thereby shew'd himself, to be much farther from deserving the name of an Atheist than Sir *Isaac Newton*, and his like: For it is infinitely more consistent with an honest Man to look upon God to be an *Intelligentia supra-*

pra-mundana, (otherways speaking, an Agent above Nature) than entirely to confound him with Nature by pretending him (as Sir *Isaac Newton*, and his like) to be an *Intelligentia mundana*, and so to revive and protect the Notions of the most famous Atheists that ever liv'd. For if a Philosopher will shew himself to be worthy of that Name, and succeed in establishing natural Religion, he must be able, and dispos'd, distinctly, and without Contradiction, to shew the true Difference between the Effects of God, and the Effects of Nature; and so to make his Glory and Perfection consist in the Perfection, and not in the pretended Imperfection of his Works: And whoever is capable and dispos'd so to do will find, that in respect to the material World, God has endowed every Particle of Matter with such Properties as to enable it to follow the Directions of Nature, and that God has by those Properties enabled Nature to execute all the Laws he has prescrib'd it, without directly or indirectly requiring his Help, any farther than at such times, and on such occasions, as for some moral Reason or other, it may be necessary to make it act quite contrary to the Laws and Order pre-establish'd. And in re-

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spect to the spiritual World he will likewise find God to have enabled the Soul to discern Good from Evil, and Truth from Fallacy, and to execute all the Laws he has prescrib'd it, without at all requiring his immediate and continual help; and whoever teaches the contrary, does either not know what he says, or else he designs to impose upon God and all his Creatures.

DR. CLARKE in his Being and Attributes of God, Part II. Page 17. has moderated the Case of Sir *Isaac Newton* a little more than the rest of his Followers, by *supporting* the Effects they all attribute to God himself, to be produced by subordinated Beings, but if he had duly considered the matter he would have found, that even that, is a Notion inconsistent with the Wisdom and Goodness of God. For to suppose God to have created spiritual Beings, and to have charged them with any Operation in the material World, would be just as if a King did promote a Man of a mean Extraction, to the first Rank of Nobility, for to send him into the Country to Plow the Ground, or to make him guard a Flock of Sheep.

FARTHER we find those who are most in Love with the (as they call it) divine
Philosophy

Philosophy of Sir *Isaac Newton*, for to make their Author (and doubtless themselves) in so much the more admirable (more admirable said I, no more abominable I would say) they don't only pretend God Almighty to have produced the World in such an imperfection, as to be in Person oblig'd to form, reform and move all the Parts of it (see the *Opticks* of the said Author, *Page* 379.) but they do above that pretend him to be oblig'd to a continual Creation, for to supply the Loss they have dream'd in it (see Mr. *Whiston's* astronomical Principles of Religion, *Page* 112.) a Notion which not only includes an extream Absurdity, but likewise a direct Contradiction. For on one Hand there is nothing more certain, than if God did meddle with a continual Creation, he would in the mean time be obliged to a continual Annihilation, for otherways Space would in Time come to be filled up with so many new created Particles of Matter, as would interrupt the entire Course of Nature. And on the other Hand nothing can be more contradictory, then to pretend God to have created and perfected a World, and in the mean Time to be yet continually at Work about it, for whatever is once perfected, can require

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nothing more to be done to it, nor can a Thing with Truth be said to be perfected as long as there remains something or other to be done to it.



P A R T III.

Relating to the Nature of God, shewing farther, that our modern Philosophers, instead of having proved the Existence of God, they have entirely disproved it, &c.



OW after we have observed in what absurd and contradictory manner they have proceeded in respect to the Existence and Attributes of God, let us see the manner they have proceeded in respect to his divine Nature; where we shall find less room to pay them the Homage they expect, than for what has already been observed. For all what they have established in the foregoing, we shall find overturned in the following, and after

ter we have examin'd and compar'd one with the other, we shall find and be satisfi'd, that the most raving Brains in *Bethlehem*, could never have produc'd a more extravagant and contradictory mixture of a discourse, than they have done, both in respect to the Existence and Nature of God, &c. for by the one they allow God to be capable of moving Heaven and Earth, &c. and by the other they pretend him to be capable of no effect at all, as they do by denying Motion to be consistent with his divine Nature. For one may as well, and with the same Truth and Justice, pretend an Effect to be without a Cause, as to pretend God to be the Creator and Governour of the Universe, without being capable of any Motion. And I would fain know what such like Philosophers mean by the word *Agent*, if they don't mean a Being capable of acting, likewise I would know what they mean by the word *Acting*, after they have denied it to be consistent with Motion; for Action and Motion are as absolutely unseparable, as Agent and Action are unseparable; and however contradictory this Pretension be, we find it in very direct and undeniable Terms in the Being and Attributes of God, written

by Dr. *Clarke*. It is true that the Principle whence he has drawn that fine conclusion, would not allow him to come to any other; but that does by no means justify the Thing, chiefly as long as we are satisfied that the Perfection of a Being, consists in the Quality, and not in the Quantity of his Substance; wherefore I don't see how any thing of a Philosopher can run himself into so prodigious an inconvenient, by pretending to an Infinity of Fulness in God, or any other Agent.

DES CARTES has rendred that matter no less contradictory than Dr. *Clarke*, &c. for to pretend God to be with his Efficacy every where, and with his Essence no where (as that very famous Author appears to have done) is as contradictory as to pretend him to be the Creator and Governour of the Universe, without being capable of any Motion; and this contradictory *Distinct* story proves it self by two different Evidences, one of which is, that no Agent is capable to act where he is not, and the other is the omni-present, which inseparably goes along with the Existence of God; for as long as God is allow'd to be infinite in Extention, it is absolutely impossible to suppose him to be any where absent. And as contradictory *Des Cartes* is in this and other

other Notions, so he is in the Definition he has given of both Physical and Metaphysical Bodies; for to pretend a Physical Body (otherways speaking a material Body) to have Dimensions, and a Metaphysical Body (otherways speaking a Spirit) to have none is just as much as if one did say, there are Physical Bodies, but no Metaphysical ones. And so it is in respect of Motion, for to pretend God to be without Motion is just as much as if one did say there was no God. And thus is the Perfection to which this Science has been carried by those famous Authors, so far as we have yet examin'd into it, and the farther we go in it, the more we shall find room to complain, and to hate the thought of the Progress they have made, as well in respect to Things which fall under our Senses, as in respect to those who only fall under the faculties of the Mind. And after all we find this World has not been big enough to hold all their extravagant Notions, but it has been necessary for them to invent an infinite number of more Worlds, for to infect them with the same Venom, and thereby to give Libertines so much more room, to call revealed Religion a Fable, and natural Religion a Folly, than they had before that and other such like *Bethlemitian* Inventions.



P A R T IV.

*Shewing how far the Newtonian
Philosophy is from being agreea-
ble to the Bible.*



AND after all, they pretend such extravagant Notions to be of a divine Nature, and perfectly agreeable to the Bible, whereby they prove themselves to have studied that Book, just as they have studied the Nature of Things; and to see how far that pretended divine Philosophy is from agreeing with the Bible, we have only to examine into the following Places, by which we shall soon be satisfied to the contrary. For at the beginning of the second Chapter of *Genesis*, it is said in very plain and direct Terms, that in six Days God has created and perfected all things, and the seventh Day he entred into his Rest; and in the beginning of the first Chapter of *St. John*, we see that Apostle speak with such a Devotion
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of God, that he does not so much as allow him to have in Person meddled with the Creation of the World; how then can that Philosophy be said to be perfectly agreeable to the Bible, as long as it pretends God to have finished the World but by half, and that therefore he is yet oblig'd continually to be at Work about it?

AND the said Places being the only of the Bible, where it does directly meddle with Philosophy, how then can the said Notions be pretended to be perfectly agreeable to it, as long as every where else it meddles only with Religion? For excepting the said Places, neither the Prophets, nor Christ, nor his Apostles, nor God himself, has minded any thing else but only to invite People to observe their Duty, without having at all minded to render their Discourse agreeable to Philosophy, but always spoke of the Nature of Things, according to the vulgar Notion of the People they spoke to; nor could they have done otherways, without making the Success of their Design more casual, more difficult, and of consequence, more speedless: For to follow the steps of Philosophy, in speaking to a People entirely ignorant of them, it would have been necessary to explain every Word

to them, before they could have known the meaning of it, which would have been the Way only to confound them, by the ambiguity of a long discourse, and to ruin the Success of Religion, which being their only Design, it was necessary to insinuate it, by the help of such a Language, as might be intelligible to the People they had to deal with.

AND though *Moses* begun by Philosophical Observations, he did not pursue them any farther than it was requir'd to lay the Foundation of Religion, but nevertheless as little as he did pursue it, he has told enough to overturn the wild Notions of the said Philosophers; and though for to render his discourse intelligible to the People he spoke to, he has represented God under the Figure of a Man, he has been very far from representing him as a Being void of Motion, as we have seen him represented by the said Philosophers, and though *Moses* has *Genesis, Chap. iii. v. 21.*, represented that infinitely glorious Being under the Idea of an *Artisan*, he has been very far from representing him as a Slave of the Universe, as he is represented in that pretended divine Philosopher.

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AND though Christ has told us of another World to come, he has not told us of any actually in Being, besides that we live in. And though he has likewise told us of other rational Creatures besides us, he did not say they was such Mortals as we are, and no doubt if there was any such Things, he would not have left the Revelation of it to a Number of Enthusiasts.

AND though St. *Paul* tells us in the *Acts of the Apostles*, Chap. xvii. 28, *That in God we live and move*, he does not tell us it is by God we are moved; nevertheless, the Defenders of that blasphemous Philosophy, pretend by that and other such like places, to prove it to be perfectly agreeable to the Bible. And after they have affirmed it to be by God we are moved, they pretend Men to be perfectly free Agents; which is just as if they did pretend so many Puppets moved by Clock-work, to be free Agents. Further, they pretend Freedom and Necessity to be perfectly agreeable to one another, and after all they pretend to be very excellent and divine Philosophers; which indeed they should be, and more too, for to make good all their Contradictions, as long as it is inconsistent with the infinite Power and Wisdom of God himself to make good any Contradiction.

diction. For though God is capable of an infinite Number of Things, which exceed our Comprehension, yet it would be directly against his Glory, as well as against common Sense, to ascribe to him any one of a contradictory Nature.

AND God having for the said Reasons been represented under the Figure of a Man, would it therefore be suitable to any thing of a Philosopher to imagine, that infinite Being to be contained in so little a Space, and to live in foreign Countries, according to the vulgar Notion, and to pretend to authorize so extravagant a Notion, by such indirect Passages of the Bible? And God having (*Exodus* vii. 1. xxi. 6. xxii. 28.) given his Name to *Moses*, and all other Men he trusted with the Care of his People, for to inspire in so much the more respect into them, for the Commandments of their Legislatures; would it therefore be suitable to any thing of a Philosopher, to pretend all those Mortals, to have thereby been made equal to God?

THE King and Prophet *David*, *Psalms* lxxxix. 39. in a very extream Devotion, having used such Terms, by which one might pretend the World to be predestinated, to stand for ever; would it therefore be suitable

ble to any Thing of a Philosopher to pretend him to have had such a Thought, and to appeal to that place to authorize so extravagant a Pretension? And an infinite Number of such like Passages we find in the Bible, some of which having been taken according to their literal Sense, and others rendered contradictory, Revealed Religion has been rendered as despicable amongst ill-inclined People, as Natural Religion has been rendered for being established upon such chimerical, absurd, and contradictory Grounds, as we have observed.





P A R T V.

Shewing what has the greatest Share in Atheism ; as also how far the Morals of Infidels are preferable to those of most Christians ; and how far some Heathen Philosopher's Notions are preferable to those of Sir Isaac Newton, and his like.



O that the Thing being well examined, we find, That the ill Explication of Nature, and the Bible, has more Share in Atheism, than the vicious Inclinations of Libertines ; an evident Proof of which, are the Morals we find among Infidels. For the late very pious and worthy Dr. *Bohem*, who used to correspond to the *India's*, has told me several Times, that in Places where those People are mixt with Christians, they *did see* so very ill Examples of them, that
instead

instead of gaining any Love for them, and their Religion, they most generally had got so great an Aversion against them, as to hate the Name of a Christian. Which proves plain enough, that Nature only inspires better Principles into those People, than both our Philosophers and Divines have hitherto inspired into the Christian Part of the World, and there is very little Appearance ever to see any better inspired into them, excepting there are such proper and practical Means used, as I shall hereafter prescribe, for to suppress Vice, and to increase Virtue, and to make Arts and Sciences arrive to, and continue at, their Point of Perfection, and to establish a sole Christian Faith all over the World, on which the Felicity of Mankind chiefly depends. For the more Religions there are, the more Nourishment there will always be for destructive Confusions, chiefly as long as there are such amongst them as encourage Mischief, instead of discouraging it, and as long as besides inferior Genius's, we see the Gospel under the Management of such Men, as are more inclined to insinuate all sorts of infamous and destructive Notions, than any thing good and salutary.

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AND as in respect to Revealed, so in respect to Natural Religion, it will be necessary, and a Thing of the greatest consequence, to take Care, not to let them fall under the Management of such Men, as have neither the Capacity, nor the Integrity required for one or other; for otherways, as it has been hitherto, so it will be for ever seen, that the salutary Notions introduced by Men of Sense and Integrity in one Age, will be banished by stupid and perfidious Ones in another. For amongst the ancient Heathen Philosophers, we see Notions much more agreeable to Nature, Reason, and the Glory of God, than amongst our Modern Christians: For several of the Heathen Authors, and chiefly *Onatus*, has been so full of Veneration for God, that he has very justly lookt upon it as a Crime, in whomsoever did attribute to God himself all the Effects we see produced in the World, affirming there were subordinated Beings, whom God had charged with all the Operations, and that he himself only kept the Inspection over them, and our pretended Divine *Newton*, and his like, make it no manner of Scruple to ascribe to God himself all the most inferior Effects we see produced in the whole World. Likewise all Heathen Philosophers

sophers who did believe a God, have been so far from pretending him to be void of Motion, that they all, and chiefly *Heracletus*, has very justly lookt upon him to be the most active Being of all Beings, and amongst our Modern Christians we find that most evident Truth absolutely denied.



P A R T VI.

Shewing what Nature is, and the Effects it is capable of; how far Aristotle's Notions are herein to be preferred to those of our modern Philosophers; how impossible it is to suppose the Soul to be material and destructive, and that Democritus and Epicurus have shewed themselves more worthy Men than Sir Isaac Newton, &c.



ARISTOTLE, by his Elements, has without Dispute shewed the true Way to find out the Cause of all the Effects we see produced in the World; nevertheless, we find them
entirely

entirely overturned, in order to make room for the Chymera's our Modern Authors have produced in the room of them. And though the Discoveries that excellent Philosopher has made, in respect to his Elements (otherways speaking to the general Divisions of, and different Temperaments in Matter) are not perfect; he has nevertheless thereby shewed, that he has had a much better Insight into the Nature of Things, than all those who pretend to the contrary. And I am very much surprized to see the famous *Robault*, and other *Cartesians*, to have bestowed all the possible Pains, entirely to overturn the Foundation that excellent Author has hereby laid, only for to make room for the Chymera's of *Des Cartes*, which are as extravagant as any Thing can possible be: For if at the Creation God had given so violent a Degree of Motion to the Particles of Matter, as to strike one another to Pieces in their *Rencontre*, for to make up the first Element of that Author, they would for ever have hurried about, and never come to the Formation of any Thing at all. And another Extravagance flowing from this Pretension, is to suppose God to have set every Particle of Matter a moving, by a simple Impulse, and therefore to be obliged continually

nually to be at the Heels of every one of them for to renew the Motion given by that Impulse, as soon as it might be lost by their meeting one another, which both together reduce the Elements of that Author to so prodigious an Absurdity, that the more I think of it, the more I find room to admire the Notion *Aristotle* proves, by his Elements to have had of the Proceedings of God; for according to his Elements God appears to have endued every Particle of Matter, with such Properties as render it capable to follow the Laws of Nature, without any farther requiring the Help of its Author. And though that excellent Philosopher has look'd upon Fire (which in it self is nothing but an extreme degree of Motion in Matter) to be a particular part of Matter, and to have made his fourth Element thereof, I can much sooner forgive him that and all the rest of his Errors, than I can forgive those our modern Authors have produced. As for the three others of his Elements (meaning Air, Water, and Earth) they are as indisputable to be so many general divisions of Matter entirely different to one another, (in respect to the Size as well as to the Temperament, &c. of their Particles)

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true, it would be absolutely necessary for every thing we touch to feel of the same Temperament, or else the Principle of feeling to have chang'd its Property at every time we feel things of a different Temperament. And not only that, but likewise it would be necessary that whatever Accident happens to any Thing we touch, not to occasion any difference in our Feeling, but since we are satisfied to the contrary, it is very plain that the Principles of Heat and Cold we feel in Matter, are essential to Matter; for when ever we touch a Piece of Iron, &c. after it has been in the Fire, we feel it hotter than before it had been in it, which only is an evident Proof that Heat and Cold we feel in Matter are essential to Matter; for as the said Accident appears to be essential to the Iron, it must of Necessity be allow'd that the Principle who admits of the Accident to be essential to it, and a Number of more Examples I could give to prove the Truth of that Affair.

Now to see how infamous it is to attribute to the immediate Operation of God, all the Effects we see produced by the Help of the different Temperaments, and other Properties in Matter, we have only

only to examine into the Principle of Attraction and that of Repulsion, or Fermentation, where by the one we shall find that God would not only be a very whimsical Agent, but likewise to be subject to lose his active Power, for the Loadstone as well as all fermentable Bodies, we find to be subject to lose their active Virtue and chiefly Fermentables, which after we have seen them work upon one another but a little while their Strength is entirely lost. And what God would that be, who after having, for no manner of Purpose work'd those Bodies about, did even lose his Power to continue his whimsical Diversions? Sure a Man must either not believe what he says, or he must be out of his Senses, or he must have an infernal Spirit, for to disgrace his Creator to so prodigious a degree, as the said Author and his like appear to have done; see Mr. *Whiston's* astronomical Principles of Religion. Page III, where it is said in very direct and undeniable Terms, that God himself is the immediate and continual Cause of Attraction and Repulsion. And though Sir *Isaac Newton* has had the cunning, not to explain himself so directly, in that or any other respect, it is nevertheless plain
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enough, that he is of the same Opinion; for when he says in his Opticks, Page 379, that God is more able to form, reform, and move all the Parts of the Universe, than the Soul is able to move the Parts of our Bodies, he shews plain enough that he is of the Opinion his Disciples have taken him to be, in respect to the said Effects. And likewise when he does in the same place say God to be more able to move the Parts of the Universe, than the Soul is able to move the Parts of our Bodies, he shews plain enough, that according to him, and his like, the Soul requires the Help of God Almighty in all his Actions.

AND after all I would fain know what in respect to the material World those Philosophers mean by Nature, and his Effects, as long as they pretend God himself to be the immediate and continual Cause of all the Effects we see produced in it. Likewise I would know what difference there is between that pretended divine Philosophy and that of *Democritus* and *Epicurus*; as long as instead of making a free and perfect Agent of God, they make a necessary and imperfect one of him, as we have observed in respect to the said Effects of Attraction and

and Repulsion, which if according to that pretended divine Philosophy God was the immediate Cause of them, the Necessity, both of his Actions and the Existence of the World would appear as plainly as two times two appear to make four. Wherefore if the late very worthy Mr. *Leibnitz* had been thoroughly acquainted with that fine Philosophy, he would have found much more room to put the Author of it amongst the Number of the said *Atheists*, than he had by the Objections he made against it. And though the same *Leibnitz* has himself produced a great many Errors, they altogether are not to be compar'd to any one of Sir *Isaac Newton's*, and his like; for there is not one amongst them capable of disgracing the Glory of God, nor to hurt the Felicity of Mankind, but there are very few of Sir *Isaac Newton's*, &c. but what hurt both those most important Points.

AND however unworthy that Philosophy be, we find the Author (notwithstanding all his pretended Modesty) affirm it deserves highly to be valued, because says he (in his *Optick*, Page 347, &c.) it brings us nearer to God than any other, when in the mean while it brings us as far from

him as that of the said most famous *Atheists*, who have even shewed themselves more worthy Men than that pretended divine Philosopher : for they have without any dissimulation declared they did not believe there was a God, but he does in Words pretend there is one, and in Fact he does as absolutely deny it as possibly can be: for he every where shews that he believes God and Nature, (otherways the Being who has created the World, and that who produces Attraction and Repulsion) to be one and the same Thing, which we have sufficiently observed to be as absolute a way to disprove the Existence of God as can be imagined.

WHEREFORE if in respect to such a Knowledge a certain very famous Poet had pretended it was happier to live in Ignorance than in Wisdom, I would own him to have spoken very well, for it is utterly impossible any Body should be of an easy Mind (which is the Fountain of all Happiness) as long as he has the Misfortune of being possess'd with such Notions as do entirely deprive him of the Hopes of a future Life. But otherways it is certain, that a Man in Ignorance does little or nothing differ from a Brute, and is therefore

therefore absolutely impossible he should be sensible of the incomparable Happiness a true Knowledge of God and his Works is attended by, how then can any Philosopher worthy of that Name pretend Ignorance to be preferable to a true and salutary Knowledge ?

AND however unworthy such a pretension be in a Philosopher, it is still more unworthy in a Divine (contrary to both Scripture and common Sense) to charge People to stop their Judgment at every Scripture place, which by a vain and perfidious Number of their Profession has been rendred mysterious and contradictory, no doubt with a design only to stupify People, and so to make them fit for to answer their Vanity and Self-interest ; instead of charging them to improve their Judgment, and so to enable them to obtain a true Knowledge of their Creator and his Commandments, and to worship him after as discreet and glorious a Manner as might be most agreeable to his divine Majesty, and most beneficial and satisfactory to themselves.

AMONGST *Juriconsults* we find the same Maxim ; for a great many in Order to obtain such Employments as may answer

Iwer their Vanity and Self-interests, they will flatteringly persuade Sovereigns to have a just right (at any Time and on any Occasions) to exert whatever Power they please over their Subjects, and thereby encourage several, not only to ruin their Subjects, but likewise themselves, by carrying the Matter so far against their People, as at last to force it to resist, and either to aim at the Blood of their sacred Persons, or to make them fly their Dominions. Therefore a Sovereign ought well to consider of the Consequence of whatever is (direct or indirectly) propos'd to him, before he allows it to be put in Practice. And so ought every private Person to take care of whatever is propos'd to him, both in respect to his Salvation and Welfare in this World, and never to mind the Sweetness of the Language, nor the Smile in the Face of whomsoever pretends to be his Friend, but only to examine into the Consequence of what he proposes. For we very often find that even those who pretend (and are by most People believed) to be the most sincere and most faithful, will at a close Tryal prove themselves to be the most deceitful, and instead of being disposed to serve either God or Man, they will betray

tray both, in Favour of their Vanity and Self-interest.

AND for any Body to be capable of precautioning himself against such like deceitful People, it is absolutely necessary for him to improve his Judgment instead of suppressing it. And instead of remaining in Ignorance he must endeavour to obtain all the possible true and useful Knowledge; chiefly a Sovereign whose Care does not only relate to his own sacred Person, but likewise to those, for whose Happiness he has engag'd himself. And a Sovereign ought to use in so much more Precaution, being most liable to flattering and deceitful Addresses, which by perfidious Courtiers we see so well managed, that a Sovereign would have need to be an Angel for to resist, and prevent his being misled, and to secure him and his People in all respects he has not only well to examine into what is proposed to him, but likewise now and then to take a disguised Turn amongst his Subjects, to learn whether or no they are used according to his Intent.

I KNOW very well that all those who are direct or indirectly touched by my Proceedings, would rather see me out, than in the World; but that won't hinder me

of

of acting according to my common custom, which is, to do right, and to fear no Body. I likewise know that Sir *Isaac Newton*, and his like, for to justify their Case they will pretend me to be in a much more dangerous Way of Philosophising than they appear to be; for, say they, to allow Attraction and Repulsion to be essential to Matter, is in the mean Time allowing Matter to be capable of Motion, and this, say they, is a very dangerous Thing, to admit of; which I believe might be so in respect to such Philosophers as appear to be blinded by a vain, hypocritical, imposturous and deceitful Spirit: but for any Body of Sense, Reason and Integrity, there will be no manner of Danger in it; for no such Person ever will persuade himself his Soul to be compos'd of such fermentable, or any other Particles of Matter, who by impulsing one another in a proper *Medium* are only capable of moving on in a straight Line, as long as he is persuaded that his Soul is not only capable of moving it self, (which none of those Particles is able to do) but likewise to impulse the Body it possesses, and to make it at any Time, and on any Occasion move in any Direction whatsoever, and

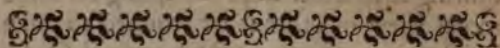
and to make it begin, cease and change the Direction of his Motion whenever it pleases; all which we see no manner of Example of in the whole material World. And as long as those inferior Faculties of the Soul appear to be entirely inconsistent with Matter, who then, besides such like Philosophers, as we have here to deal with, would persuade themselves, any of the noble Faculties of the Soul, to be consistent with Matter, as are those of thinking, self-knowledge, imagination, contemplation, conception, judgment, meditation, conjecturing, creating, communication, reasoning, considering, determination, and execution, &c. as also of an entire free Will and full Capacity to act even on the Appearance of two moral Goods, or Evils, of whatever equal Nature they may seem to be. All which we find to be entirely inconsistent with Matter, how then could any Body of Sense and Reason, suppose his Soul to be Material and Destructive? and suppose it was so, and the Particles of it liable to be dispers'd in the Universe, Libertines would not be a bit the better for it, for he that is every where present will know how, and at what Time to gather them again, in order to make them suffer for their Crimes.

Crimes. When, I say, the Soul has a creating Power, I mean that of inventing or producing new Things, every one of which is to be lookt upon as the result of a creating Power. And this Faculty of the Soul does in the mean time give us a very noble and sure Idea of the creating Power in God; for if so limited and finite a Being as our Soul, is capable of such an Effect, much more, and in a far greater Extent and Perfection, God must needs be capable of it.

AND, if according to what has been observed, the Soul is by no means to be supposed to be Corporal; how then would it be possible for any Body of Sense and Reason to suppose God the Author of it so to be? And none of them being possible, where then is the harm to allow the said very inferior and necessary Degree of Activity in Matter resulting from the said Properties, God has so wisely endued it with, for to enable Nature thereby to produce the Effects of Attraction and Repulsion, on which depend all the Physical Operations in the whole material World. When, I say, Physical Operations, I mean those which Nature has by the established Order and Harmony been enabled to perform, without requiring

quiring any farther help, excepting for some moral View or other it be required to make it act quite contrary to the Laws and Order pre-established. Which, in short is to say, that God has only reserved to himself the moral Government of the World, but the physical One he has entirely lodged into Nature; and whoever pretends to the contrary, does by no means deserve the Name of a Philosopher.





P A R T VII.

Shewing Attraction and Repulsion to be essential to Bodies, by what Cause, and after what manner those Effects are produced, and by what Medium attractive Bodies act upon one another at a distance; how and after what manner the World subsists, by the help of those universal Laws of Motion, &c.



OW what assures us Attraction and Repulsion really to be essential to Matter, are the following Experiments I have tried, both in respect to attractive and repulsive Bodies. For when in respect to Attraction, we take a piece of Steel in a proper Temperance, it will attract its Filings very considerably

derably ; and as soon as we bring it out of that Temperance, it will scarce attract any at all, which partly I believe to be owing to the Size of its Pores, which after the hardning drawn out, they are too large for to take a close hold of the Air (which is the mean by which attractive Bodies act upon one another) as they do when the Steel is hardned ; for by the hardning of it, the Particles running together by the cold of the Water it is dipt into, the Pores must needs grow narrower, and therefore the Parts of the Bodies take a greater hold of the Air, than they are able to do when the Pores are larger. As for the Reason why Steel will attract its Filings in some measure after it is brought out of its Temperance, and come to be cold, and not at all when it is red hot, is, because when it is red hot, the Particles of Air are disjoined by the violent Heat of the Steel. And that the Particles of Air are really capable (by their hooky Surfaces) to join themselves together with such a Strength, as is required to produce that and other attractive Effects, I am satisfied of, by their breaking a Glass Vessel of a considerable Strength, when they are forced out of it : As also by a Number of other Experiments, I am satisfied, that the Particles of Air, Wa-

ter, and Earth really have such hooky Surfaces like Burrs. My Adversaries pretend the breaking of a Glass Vessel, when the Air is drawing out of it, depends on the Pressure of their imaginary Atmosphere, but they are as much out in respect to that, as well as in respect to almost all other Effects of Nature, as I shall sufficiently shew hereafter; for if the Air was capable of so strong a Pressure, as would be required for the Effects they ascribe to it, the whole Course of Nature would soon be interrupted.

ANOTHER Effect which proves Attraction to be essential to Bodies, is, That when we surround a Loadstone by a ring of Iron, as I have done for to see whether or no the Strength of both Poles could be communicated into one, but I found it after that manner act very considerably less upon Iron by both, than it did before by one single Pole; and this happened, because by the said Ring, the freedom of the Circulation of the Air was considerably interrupted.

Now since we are satisfied, that the said Accidents are capable to occasion the Alterations we have observed in respect to Steel and Loadstone, it is very evident that the Cause of Attraction lies in their Bodies; for otherwise no Accident happening to those Bodies,

dies, could occasion any Alteration in their attractive Virtue.

REPULSION proves it self after the same manner to be essential to Bodies. For when I took Chalk, after it had been made red hot, and thereby the Moisture entirely drawn out, and cooled again, and powdered, thrown into Water along with powdered Allum, it occasioned a much greater Fermentation then part of the same piece which had not been in the Fire: A Proof plain enough, that the Cause of Fermentation, lies in those Bodies, otherways it would have been impossible the said Accident should have occasioned any difference in their acting upon one another.

And the said two Fermentables do likewise prove the Principle of Fermentation, chiefly to depend on the different Temperaments, otherways speaking on the different Degrees of Heat and Cold in Matter, for Chalk will always feel hotter than Allum, and the same will be found in respect to all other Fermentables. And what besides the said different Degrees of Heat and Cold, has a share in the Matter, is the Size of the Pores, and the Particles of such Bodies; for if the Pores of one was not large enough to admit the Entrance of the Particles of the other,

they would not be able to act to any perceptible degree upon each other.

AND as the Cause of Fermentation, or Repulsion, in respect to Heterogenial Bodies is owing to their different Temperaments, &c. so the Cause of Attraction, in Homogeneal Bodies, is owing to the different Temperaments, &c. of the Elements they are compos'd of; for by the difference of the Temperaments of the Elements they are compos'd of their Parts are kept in a continual Agitation, and by that Agitation they mutually operate upon the Air they are surrounded and penetrated by, and by so doing they approach one another just like two Fishes approach one another by operating with their Fins upon the Water they live in. And the more the Pores of those Bodies are proportionable to the Size of the Particles of Air, the more they are able to take hold of them, and thereby to approach one another in the same proportion. For if two Bodies were never so Homogeneal or Proportional in the Elements they are compos'd of, they would not be able to act to any perceptible degree, or distance upon one another, if their Pores were too large for their Parts to take
a suf-

a sufficient hold of the Air they are surrounded and penetrated by. And since the Particles of Air are capable of sticking together after the Manner above-mentioned, and to be apt to resist their parting from one another the more they are invited so to do, it is very possible for attractive Bodies to act upon one another, with all the Power we see them do. And as Iron tends towards the Center of the Loadstone, so by the said Means, all Bodies tends towards the Center of the Earth.

BUT whatever Force we see homogeneal Bodies act upon each others by the help of the Air, and likewise whatever Power all heavy Bodies tend towards the Center of the Earth, by the help of the same *Medium*, it would be very weak to suppose with Sir *Isaac Newton* and his Partisans, the Sun to be able to keep the Planet, from moving on in a straight Line, if according to them, they were inclined so to do. For all the Power the Sun could, has by that *Medium* been designed to have upon the Planets, is only to attract the Vapours of them for to supply the prodigious loss, it continually suffers by its Exhalation. And so the Planets by the help of the same *Medium* supply one another, of the

loss they continually suffer by the Attraction of the Sun. And this is one of the capital Reasons why the Earth and all the Planets, &c. are provided with so prodigious a quantity of Water, as we see the Earth, &c. to be surrounded by. And that Negotiation we observe between the Sun and the Planets, &c. is in the mean Time one of the capital Reasons why Space has been fill'd up with Air, for to serve as a Vehicle to Nature in that Respect, as well as in respect to all the rest of its Operations. And this Vehicle is in the mean Time the Mean by which the Sun and Moon occasion the Flux and Reflux of the Sea, not (according to the *Cartesians*) by Pressure, but by Attraction, as I am satisfied by the proper Experiments I have made on that Occasion. And the Vapours only of the Earth, and the Water it is surrounded by, not being sufficient to supply the prodigious loss the Sun continually suffers by its Exhalation, it has been necessary to surround it by a sufficient number of Planets, &c. for that Purpose, and not for a plurality of Worlds as a number of *Enthusiasts* have dreamed. And as the Planets furnish the Sun with their Vapours for its Subsistence, so the Sate-
lites

lits furnish the Planets, and the Planets the Satellites, with their Vapours; for to supply one another's loss they suffer by the Attraction of the Sun: And this is in the mean while the Reason why no Planet can subsist without having a Satellit, or another Planet within the reach of its attractive Power.

So that the Subsistence of the Machine of the World consists in its Parts continually supplying one another in the loss they are subject to by their Exhalation. And as the Earth, &c. furnishes the Sun with its Vapours for its Subsistence, so the Sun furnishes the Earth, &c. with Heat for its Motion and the Production of our Subsistence; when I say for its Motion, I mean Fermentation, and neither the *Cartesian*, *Tousbillon's*, nor the *Newtonian* Gravity and Attraction, nor the Density and Elasticity of the chymical *Medium* of that Author: for by the sole Principle of Fermentation, I have found several Ways to produce a circular Motion, but none by Gravity and Attraction, though I have attempted it by as nice and proper Ways as any Philosopher can pretend to.

No doubt here I shall be laught at by all the Partisans of those famous Authors,

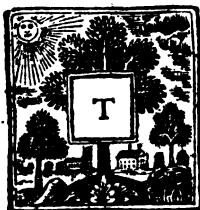
and chiefly by those of Sir *Isaac Newton*, for pretending to overturn his Motion of the Planets, and for denying the Existence of his wonderful pressing *Atmospheres*, and chiefly that of his ætheral *Medium*, upon which he has grounded his entire Philosophy, because (say they) he has proved the Truth of all, by a number of very good Experiments. To which I answer: That if they had examin'd into the Matter they would have found as well as I, that there is scarce one of his Experiments but what is filled up with Contradictions and false Conclusions, as we shall soon be satisfied by the following Enquiry.





P A R T VIII.

Shewing how blindly Sir Isaac Newton has made his Experiments, relating to the Atmospheres, and how absurd and contradictory the Notions are which he has grounded upon those Experiments.



THE Existence of the *Atmospheres*, and the Truth of their Weight, or Pressure, that most famous Author has undertaken to prove, by two Experiments, mentioned in his *Optick*, Page 318 & 319, one of which relates to the boiling of Water, and the other to the Evaporation of a Mixture of Tinn and Lead; where by the one he having found that the Water he set a boiling in a pellucid Vessel emptied of Air, did

did bubble and boil, as vehemently as that in another Vessel in open Air, and this he says happened because the Weight of our *Atmosphere* kept the Vapour of the latter down, without considering that the Heat introduced into the Vessel in open Air, escaped sooner than that in the Vessel in *Vacuo*, which not being able to escape at the top of the Vessel so easily as that in open Air, it was forced to return towards the bottom of the Vessel, and so operated in double Force upon the Water, while that in open Air only operated with half the Force upon the Water, which was set a boiling in it; besides, this Vessel being open at the top, the Water in it was continually refreshed by the Air, which could not come to pass in respect to that in *VACUO*; wherefore it was impossible for that in open Air to be agitated as soon, and as vehemently, as that in *VACUO*. And I am by so much more surprized, the supreme Eyes of that most famous Author did not perceive that: Since he every Day meets with a very clear Example of it in respect to his own Dress. For there is no other Reason why we feel our selves warmer when we are dressed, than when we are undressed; but because while we are dressed, the

Vapours,

Vapours, which continually pass the Pores of our Bodies, are retarded between the Skin and Cloaths, and thereby keep the Body warm, but to the contrary when we are undressed those Vapours not only escape as soon as they have passed the Pores, but likewise the cold Air has more room to enter into the Pores, than when we are dressed, and therefore we must of consequence feel ourselves warmer when we are dressed than when we are undressed.

As for the Experiment concerning the two Mixtures of Tinn and Lead, one of which he put upon a red hot Iron in *vacuo*, and the other in open Air, and because he perceived a Fume and Flame of that in *vacuo*, and none of that in open Air, he concluded it was the Weight of the *Atmosphere*, which kept it down, not considering that for such a scarce perceptible quantity of Fume and Flame, it was very easy to be lost in the vaporous Air it was surrounded by; but the Fume and Flame of that in *vacuo* not being surrounded by so coarse, or vaporous an Air, it was much more easy to be perceived than that in open Air.

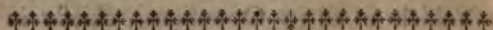
Now as much that most famous Author has lost himself in respect to the Experiments he has endeavoured to prove both the
Existence

Existence and Effect of that Limitation of Air, he means by the word Atmosphere, as much he has lost himself in respect to the use he has made of it. For in the said 319th *Page* of his Optick, he pretends the Exhalation of the Sun (excepting Light) to be returned into it by the Weight or Pressure of its Atmosphere, and thereby was kept from diminishing; which is as impossible as it would be to keep a Fire from diminishing, by making its Smoak continually return into it. Besides, he does in the said place of his Optick allow Light to be so much Substance the Sun does continually suffer the Loss of, without shewing any manner of supply for so prodigious and continual a Diminution of that Body; which if God had made no Provision for, how would it have been possible for that Body and the whole World to subsist ever since the Creation? And how can any Thing of a Philosopher suppose, we could subsist upon Earth, if its venomous and destructive Vapours were not continually carried away by the Sun's Attraction, for to be purified by it, whilst they serve it as a Refreshment, and thereafter by its Exhalation are returned to us, under the Name of Heat, on which the Production of all Animals, Vegetables and Minerals

nerals chiefly depends? And if the Air did not extend it self throughout the whole Machine of the World, for to serve Nature as a Vehicle in all its Operations, chiefly in respect to the Negociation above-mentioned, by which the Sun and Planets, &c. do continually supply one another's Loss; how would it be possible for the World to subsist? And what would become of the World if the Exhalation of both Sun and Planets, &c. did remain in the Space between them, which thereby would in a very little while be filled up to so prodigious a Degree, as to put a stop to all the Operations of Nature, and so make an end of the whole Machine of the World, as well as of all that lives upon Earth? For the Air would by the said Exhalation come to be so very thick, that all Animals living upon Earth would soon be choaked by it; and this would in so much the sooner come to pass, if according to that most famous Author's Philosophy, the Vapours, or Exhalation of the Earth was continually returned towards it by the Weight, or Pressure of its imaginary Atmosphere. And if the Weight or Pressure of our imaginary Atmosphere was so very great as to break a Glass Vessel of a considerable Strength,

when

when the Air is throwing out of it ; how could we be able to dwell in it ?



P A R T IX.

Shewing what Light and Colours are, and how far Sir Isaac Newton is out in his Experiments hereunto relating ; as also in respect to that he has tried with Relation to the Existence and Effects of the ætheral Medium.



THE Experiment made by two Thermometers, mentioned in the 323d Page of that most famous Author's Optick, which he seems to have lookt upon as a very evident Demonstration of the Existence and vibrating Effect of his ætheral Medium, is made in as blind a manner as those relating to the Atmospheres. For there he shews, that he believes Air liable to be kept out of
any

any Vessel ; and that according to him, the Accidents which happened to the *Thermometer* in *vacuo*, were owing to the Vibration of his Medium, not perceiving that he thereby contradicted himself, for the *Thermometer* in *vacuo* growing warm as soon as it came into the warm room he carried it, as well as that which was not in *vacuo*, shewed plain enough, that the Pores of the Vessel it was inverted in, were large enough to give free Passage to the Air contained in the warm room, otherways it would have been impossible for the *Thermometer* to be effected by it ; which is a Proof plain enough, that Air is not to be kept out of any Vessel, as it is generally believed. Nor was there any occasion for his Medium to help that Air to pass the Pores of the Vessel, since by its own Vibration it was able so to do : And whoever will be pleased to examine into the Matter, will soon be satisfied, that his Medium had no more Share in that Effect, than it has in all what he does ascribe it ; and that whatever can be banished and kept out of any Vessel, are the Terrestrial and Heterogeneous Vapours ; but mere Air, as well as the Sun's Heat, are absolutely impossible to be excluded out of any Vessel : And I am in so much more surprized to see him pretend

to it, since he knows Water has been found to pass through the Pores of Gold ; and if the Particles of Air were so great a Size, as to be kept back where those of Water find passage, the Attraction of the Planets would soon have gathered that Element about their Surfaces, as well as that of Water we see gathered upon the Surface of the Earth, whereby there would soon be an end of the World, and all what lives in it. Besides, according to his own Calculation, the Particles of Air are 900 Times rarer, or smaller than those of Water, (see his *Optick*, pag. 341.) and who besides him would be able to suppose the Pores of Glass to be 900 Times less than those of Gold ?

AND to be satisfied there is no such thing in Nature as that which goes under the Name of *Æther*, we have only to come to the following Considerations, by which we shall soon find, that if Nature was provided with a *Fluit* of so extraordinary a Vibration as the said Author pretends *Æther* to be, it would of consequence follow, that we should never have come to know any thing of what we call Winter, which only comes to pass for want of such a vibrating *Fluit*. Wherefore, as long as we see the Production of the Earth cease, Water change into
Ice,

Ice, and Animals die of Cold, as soon as the Sun fails of sending us a sufficient quantity of Heat to prevent all such Accidents, it is very plain, that all the Vibration he ascribes to his Medium, depends on the Sun's Heat, and that there is no such Thing in Nature as that which goes under the Name of *Aether*.

IN respect to Light and Colours, we find that most famous Author as erroneous as in respect to almost all what he has ever meddled with, for when in the 216, &c. Page of his *Optick*, he pretends to deduce all Colours from Light; he shews plain enough, that he does neither know what Light is, nor what Colours are. For Light properly, and in it self, is nothing else but the Reflection of the Sun communicated from one Particle of Air to the other, just as the Image of a Man is communicated from one Looking-glass to another; for if the Sun's Heat, otherways speaking, the Rays, or Exhalation of the Sun (which is generally taken for Light) did come to us in so violent an Agitation, as to be capable of imitating Light, we, and all what is upon the Surface of the Earth would soon be burnt to Ashes.

As to Colours, they depend on the Situation of the Parts of the Bodies, and Light has no more Share in them than to brighten and distinctly to discover them to our Eyes; besides, the Rainbow, as well as the Prism, discovers us only three universal Colours, and according to all the useless, perplex and distractive Experiments of that Author, there is an infinite Number. In his *Optick*, *pag.* 132 & 133, he tells us, to have made a perfect White by force of Light; and *pag.* 241, he tells us, Black likewise to be produced by the force of Light, for, says he, to make Bodies look black, it is necessary that many Rays be stopt, retained, and lost in them. And with such like groundless and contradictory Notions he has filled that most admired Book up from one end to the other; nevertheless, even he, who according to his Post, should be the most penetrant and most equitable Man, made it an unpardonable Crime in me, when (with all the possible Submission) I told him so, and when I (in his Library where we were) desired the Book for to shew him a very direct Contradiction relating to the Motion of the Planets, which then was most in question between us; he absolutely denied me the Book, and in a very violent Passion told me, that
the

the Planets had never been mentioned in it, tho' pag. 325. the Author does in very plain and direct Terms pretend their gravitating towards one another to depend on the Density and Elasticity of his imaginary Medium, which according to the use he has made of it, does not only make the Thing contradictory in respect to that Medium it self, but likewise in respect to what he has laid down in his *Principia*, where he ascribes the gravitating of the Planets towards one another, to the Attraction of the Sun; which shows that ambitious Readers are as unwilling to confess to have been mistaken in Reading, as ambitious Authors are unwilling to confess to have been mistaken in Writing, and this I have Experienced in respect to Sir *Isaac Newton*, as well as in respect to several of his Disciples.

AND to be satisfied that the Colours of Bodies depend on the Situation of their Parts, and not on the said Authors imaginary colourifick Quality of Light, we have only to come to the following Experiments: The first of which is, that when we take a piece of Steel, or any other polished or rough filed Mettle, and give but two or three file Strokes a-cross the rest, we find it look a different Colour to the rest. The same when we

take a piece of Cloth, &c. and cut it in the middle, and lay one half reverse to the Wool of the other half, we see them different Colours, which is for no other Reason but the different Situation of their Parts, and for their differently reflecting Light. The same when we see a Black produced by two white Liquors, the reason of it is nothing else but their violently operating upon each other's Particles, they change the Situation of one another's Parts, and according to the Situation they do thereby take the Liquors will represent a Colour. Further, we see, that one and the same white Liquor, applied at one and the same time, in one and the same Ray of Light, upon a white and a black Liquor, it will make the white black, and the black white.

By all which it appears as plainly as two times two make four, that the different Colours of Bodies depend on the different Situation of their Parts, and on their differently admitting and reflecting Light, and not on the said Authors imaginary colourisick Quality of Light. And I would fain know how and after what manner that Author thinks Minerals can receive their Colour of Light, as long as they grew so deep in the Ground, that it is impossible for Light to have any Influence upon them.


Further,

Further, I would know what he means by the Lights being lost in one Body more than in another, so as to produce a White in one, and a Black, &c. in another, which to me is just as if one did fill a chrystial and a green Glafs Bottle with red Wine, and because the Wine not appearing so visibly in the green as in the chrystial Glafs Bottle, he would pretend the Wine to have lost it self in it. When, I say, Bodies reflect Light, I mean it by their Parts, and not by that Author's imaginary Medium.



P A R T X.

Shewing the false Conclusions drawn from the Experiments made by the Air-Pump; as also the Fallacy of Sir Isaac Newton's empty celestial Space, &c. as also of the Notion Cartesians have in respect to the Flux and Reflux of the Sea, and the true Cause of that Effect.

 H E breaking, &c. of a Vessel when the Air is drawing out, is so visibly depending on the Attraction of the Air, as any Thing can be; nevertheless, we see it ascribed to the Gravity or Pressure of the Air, or Atmosphere, by which all those who are come to that conclusion seem either to have been asleep, or else to have been as Mechanical as the Machine they made use of, when they saw that Effect come to pass; for otherways one should think their Senses might have acquainted them

them of the contrary, if their Reason was not of a Capacity so to do. For if the breaking of a Vessel when the Air is drawing out, was owing to the Pressure of their imaginary Atmosphere, we should when we clap a Hand upon the open top of a Vessel, while the Air is drawing out, feel the outside of the Hand much more, or at least as much, affected by the Air than the inside; but as long as we find it only affect the inside, and not the outside, it is very plain and undeniable that it is effected by the Air within, and not by that without the Vessel, and that Air which is within the Concavity of the Vessel, having Communication with that in the Connexion of the Hand, and the Particles of Air being of a sticking Nature, and inclined to resist their parting from one another, they will affect the Hand as soon as the Piston of the Air-Pump comes to operate upon it. And the Particles of the Air within the Concavity of the Vessel having likewise a Communication with those in the Connexion of the Vessel, and they being by their hooky Surfaces enabled to stick together, as so many Links of a Chain, and inclined to resist their parting from one another, the more they are invited so to do; it comes to pass, that as soon as the Strength

of a very fragile Vessel is inferior to the Strength of the Chains, or Fillets of the Air, it will break to Pieces as soon as the Piston of the Pump comes to operate with any considerable Violence upon the Air within it.

AND what does further prove that pretended Pressure of the Air, or Atmosphere to be groundless, is that whenever the Air, or properly speaking the Terrestrial and Heterogeneous Vapours are drawn out of a Vessel, it is lighter than it was before ; which, if there was any such Pressure, it should rather be heavier, or at least as heavy as it was before the said Vapours were drawn out. The Reason why a Pen, &c. moves swifter in a Vessel after the said Vapours have been drawn out of it, is not as it is believed, because the Vessel is empty of Air, but it is because the Parts of the Pen, &c. are with more freedom acted upon by the Attraction of the Earth, than they can be whilst the Air is mixt with the said Vapours. Besides, the Particles of Air being infinitely more subtil than those of Water and Earth, it is very natural that Bodies should move with more freedom in Air only, than in a mixture of Air, Water, and Earth.

ANOTHER Proof that the Air operates by Attraction, and not by Gravity
or

or Pressure, is the Effect we observe in respect to Cupping Cups, which if their sticking to the Flesh did depend on the Pressure of the Air they are surrounded by, we should see the Rims of each enter into the Flesh, and not the Flesh into the Cups; nor should we see the Cups loosen as soon as that quantity of Air is by the Pores of the Flesh re-entred into the Cups which was banished out of them by the Flame of the Cuppers Candle, and the more Air there is banished out of those Cups, the more they will raise or attract the Flesh, which is a plain Proof that the Particles of Air are inclined to resist their parting from one another the more they are invited so to do; and therefore the more their number is by the Air-Pump decreased in a Vessel, the more those who remain in it will affect it, and so squeeze it together if very flexible, or break it to pieces if very fragile. In this respect we see the Air imitate Glew, which the less we take of it for to join two Bodies together, the stronger the Joint will be. The same we further see in respect to Air and two concave Plates well join'd together, which the more Air we draw out of their Concavity,

the

the stronger they will stick together, by the help of the remaining Air.

ANOTHER Proof which shews the Air to operate by Attraction, and not by Gravity or Pressure, is the Experiment I have try'd for to satisfy my self of the fallacy of the Notion *Cartesians* have in respect to the Flux and Reflux of the Sea; for by setting a Pipe at a little distance off the Surface of a Cup full of Water by one end, and by taking the other end in my Mouth, I found the Surface of the Water move as soon as I drew my Breath; but whenever I did beat the Air against the Surface of the Water there was no Motion at all occasioned. Which shews plain enough that the Air is capable of acting by Attraction, and not by Gravity, and its Particles to be capable of sticking or hooking together as aforesaid. And that the Flux and Reflux of the Sea depends on the Attraction, and not on the Gravity or Pressure of Sun and Moon. As also that the Air extends it self throughout the whole Machine of the World. And that being so, where is then *Sir Isaac Newton's* empty Cælestial Space, and his choaking *Atmospheres*? The Fallacy of all which does indisputably appear by this one single Experiment.

P A R T XI.

Shewing the Temperament of the Air, and the Reason why we find it sometimes hot, and others cold; why one and the same Air occasions different Effects in us; why one and the same Meat, &c. occasions a different Taste in several People. What Heat and Cold is, and why they occasion different Pains in us; and why Animals die of cold; why a cutting Instrument occasions a more tolerable Pain in us than a pricking One; why the Bone of any Limb may be cut off without any considerable Pain, &c.



N respect to the Temperance of Air, we see as erroneous Notions as in respect to almost every thing else. For it is neither according to Mr. Cheyne by salein Humours, nor by other such like Chymera's, but it is by the different

different distance of the Sun, the different degree of Fermentation in the Sun and Earth, and by the different Serenity of the Air, and the different direction of the Wind, we feel the Air vary its Temperance from one Hour to another. For the Air in it self is of so cold a Nature, that if it was not continually mixed with the Sun's Heat, &c. it would be impossible for us to bear it.

THE Reason why Heat and Cold occasions different Pains in us, is, because hot things being of a fulminative Nature, they disperse the Fibers, and cold things being of a more unactive and contracting Nature, they pinch the Fibers together: so that it is by their differently acting upon the Fibers of our Flesh, they occasion different Pains in us. And it is very near the same in respect to a pricking and a cutting Pain, for a Knive or any other cutting Instrument, parting or separating the Fibers, and other Parts of our Bodies with less violence than a pricking Instrument, they make us feel different degrees and sorts of Pains, for no pricking Tool having a Point so perfect, as to enter into the Flesh without pressing upon the Fibers, it meets with, and so tearing them to Pieces by the Point

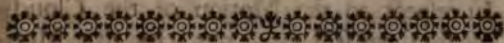
as well as by the following part of the Tool, it must of Necessity occasion a greater Pain, than if it did cut them to pieces. The Reason why the Bone of any Limb may be cut off without any considerable Pain, is, because the Parts of it lie too close to be capable of a sufficient Vibration to communicate to the Soul the Accidents it is subject to; for the means by which any Accident of the Limbs is communicated to the Soul, and the Will of the Soul to the Limbs consists in nothing else but the Vibration of the Fillets of the Nerves; &c. and in whatever Limb that Vibration is interrupted, the Soul is neither able to have any moveable Influence upon it, nor to perceive whatever Accident it is affected by. The Reason why one and the same sort of Meat, &c. occasions a different Smell and Taste in most People, is, because the Organs which introduce Smell and Taste into the *Sensorium*, differ in the Situation of their Parts, and in the Proportion of the Elements they are composed of; so that they being by the different Proportion of their Elements endowed with different Temperaments, and having the Parts of their Bodies in a different Order, the said Organs come to be differently affected by one and the same Meat, &c. and so most People come to differ in both Smell and Taste, &c.

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THE Reason why we feel one and the same Air colder when with a Fan, &c. we strike it against our Face than it was before, is, because its Particles are brought out of their Vibration, which is the only Reason why we feel that Element warm, and its Particles being deprived of their Vibration, while they are thus struck against the Skin, they can but feel colder than at such times as they touch it by their free and vibrating Motion. For as Cold proceeds from Inactivity, so Heat proceeds from Activity; wherefore, by Cold and Inactivity, we always are to understand one and the same Thing, and the same we are to do in respect to Heat and Activity.

As for the Cause of the said Vibration of Air, as well as the Fluidity of Water, they are owing to nothing else but the Heat of the Sun, which keeps those Elements in a continual Ferment; for if it was not for the Heat of the Sun, Air would naturally reduce it self into Ice, as well as Water, &c. reduces it self into Ice, as soon as the Sun fails of sending Heat enough for to keep its Particles in Agitation. And it is only for want of a sufficient Agitation, or Vibration in the Air, we see Animals die of cold in very hard Winters; for in such Winters, the

the Air, Animals attract by their Respiration, and that which they admit of running into the Pores of their Bodies, being brought out of their Vibration, they cease both the Fermentation, or Circulation of their Blood, and the Vibration of all the Parts of their Bodies, and so destroy the Motion of the whole Machine.



PART XII.

*Shewing the Cause of the Wind,
Thunder and Lightning, and how
far Philosophers are out in respect
to those Effects.*



AS for the Cause of the violent Motion in the Air, called Wind, I find Philosophers to be as much in the dark of it, as they are in respect to almost all the Effects of Nature. For if the Dilatation of the Particles of Air, occasioned by the Sun's Heat, or the Vapours of the Earth, were the occasion of the Wind, as it is generally believed, we could
never

never be without Wind; and there would even be more of it in Summer time than in any other Season; because in Summer time the Sun's Heat having more power upon the Air we are surrounded by, it must of Necessity be subject to a greater Dilatation, and likewise the Earth must in Summer time be in a greater Fermentation, and thereby impulse the Air more than in any other Season. In respect to the Motion of the Clouds, we see them still more out; for that Motion is so far from depending on the Motion of the Air or Wind, as it is generally believed, that the Wind depends on the Motion of the Clouds, and the Motion of the Clouds depends on their Fermentation. For just as fermentable Minerals do by that Principle swim about in the Water, so the Clouds do by the same Principle swim about in the Air; and just as such Fermentables occasion a violent Motion in the Air the Liquid they swim in does contain, so the Clouds do by the same Principle impulse the Air they are surrounded by, and so occasion that Motion in it as goes by the Name of Wind: And what proves the Truth hereof, is, That the more Clouds we see together, the more violently we find the Air in Motion, till at last they are dispersed by the very Motion

on they do themselves occasion in the Air, and tho' we don't always find that Motion of the Air agreeable to the quantity of Clouds gathered in it ; it is for no other Reason, but at such Times their Impulse runs another way, and so prevents us of being sensible of the Motion it occasions in the Air.

IN respect to Thunder, we see as out of the way Notions; for if the Noise which goes under that name did depend on the Clouds striking against one another, or on the escaping of the Air they include, there would be more Thunder in Winter than in Summer Time; for in the Winter, the Earth is not only surrounded by more Clouds than in the Summer, but we do likewise see them in a more violent Motion. Besides we never find spongy Bodies occasion any considerable Noise, however violent they are struck together; neither do we find by the Air-Gun, that the Air which escapes out of it occasions any considerable Noise, how then can it be supposed that such like Effects can occasion so terrible a Noise in the Clouds as that which is called Thunder. Whence I conclude that Effect to depend on the bursting of solid Bodies, which in Summer Time are most apt to be formed of the Exhalati-

on of the Sun, and that of the Earth, which by their own Fermentation they are subject to take Fire and to dissolve, some with, and others without Noise; the latter of which I am satisfied of by an Eye Witness, and the more such like Bodies contain nitrous Humours, the more Noise they will produce in their Dissolution, and thereby occasion what we call Thunder. As to Lightning without Thunder, I look upon it to be nothing but a sudden Motion in the Air, occasioned by the Heat of the Sun, &c.





P A R T XIII.

Shewing on what Principle the Combination of the Bodies depends, and what absurd and contradictory Notions Philosophers have produced in respect to that and several other Effects of Nature.



IN respect to the Combination of Bodies, we see as out of the way Notions as every where else, for some do ascribe that Effect to the Pressure of the Air, and others to the immediate help of God Almighty; one of which is as false and ridiculous as the other is infamous. For if the Particles of the Air did tend towards each others with so violent a force, as to press the Parts of all solid Bodies so strongly together as to make them stick so unseparably together as we find

them by the hooky Surfaces of their Particles enabled to do, how could we, or any other Animal be able to move in it? and how could the Planets be able to move, or the Sun's Heat be convey'd to us? And in general, how could Nature be capable of any Effect at all? For at that rate every Part belonging to the whole Universe would be as unmoveable as so many Rocks. And if God had not had Skill and Wisdom enough without his immediate Assistance to enable Nature to form all Animals, Vegetables and Minerals, where would be his Almighty Power and Wisdom? And I would fain know where the Excellency and Divinity lies in such Philosophers as have at every Step been sowing nothing but Absurdities and Contradictions.

THE breaking of a Vessel occasioned by the Cold, has of late Years been ascribed to the Waters increasing its Mass, when it changes into Ice, but with as little Justice as the Antients have ascribed it to their imaginary fear of Emptiness. For the Winter before last, I filled a glass Viol with Water, instead of its breaking the Viol while it was a freezing, part of it would rise out of the open top of the Viol in order to make room for the rest; and thus *it did* altogether change into Ice, without doing

doing the least damage to the Viol; whereafter I melted the Ice, and did put fresh Water into the Viol, and let it stand in it for two or three Days, for to give the Water time, some of it to enter into the Pores of the Viol, which I supposed was the Cause of the breaking of such Vessels, and I soon after did find the Confirmation of it; for as soon as I did put the said Viol thus prepared into a cold Place, I found it crack before the Water was entirely changed into Ice; which is a plain Proof, that it was by the Extension of the Particles of the Water within the Pores, and not of those in the Concavity of the Vessel, the breaking of it was occasioned.

THE Weight of Bodies is look'd upon to be proportionable to the Quantity of the Matter they contain, which is another Error; for the Brightness of Christal Glasse, as well as that of Diamonds, &c. being infinitely greater than that of Lead, it is certain their Particles lie closer than those of Lead, for else they would not reflect Light any more than Lead; and if their Particles lie closer, they must of Necessity contain more Matter than Lead; nevertheless, Lead is much heavier than any

of them, which is a sufficient Proof that the Weight of Bodies chiefly lies in the Size of their Pores, and the Flexibility of their Parts, after the manner above-mentioned.



P A R T XIV.

Shewing the vulgar Errors produced about the Laws of Motion by Sir Isaac Newton, as well as by his Disciples.



IN respect to the Laws of Motion, we see so very vulgar and contradictory Notions even amongst our most famous profest Mathematicians, that I am surprized whenever I think of it; for some Days ago, I was appointed to meet one of them about some private affair, where amongst other Points of Philosophy, we came to discourse upon some Bodies, tending towards, and others from the Center of the Earth, as we see by the Flame

Flame and Smoak, both of Fire and Candle, &c. which my profest and very noted Mathematician presently denied, and affirmed any Smoak or Flame, &c. was actually falling while it appeared to our Eyes to be rising, and looked upon me to be the greatest ignorant in the World for pretending to the contrary.

ANOTHER such like Rencounter I had some time ago with another of that Profession in respect to Mechanicks, in which he being the most famous in Town, I went, and shewed him a draught, relating to the perpetual Motion, for to know his opinion about it, and I found him so far from seeing any Light in it, that he pretended even the Machines, by which I proposed to move the Wheel, were incapable to move themselves; notwithstanding the contrary did appear so very visibly that a Child might have seen it; nevertheless, he is more taken up with giving Demonstrations against the Possibility of that Invention, than any one of his Profession. And how is it possible for Arts and Sciences to obtain their Point of Perfection, as long as they have the Misfortune of depending on the discretion of such like Men? and how is it possible the World should be put into any thing of a

true Light as long as such short sighted Professors come to be the Tutors of it?

MR. CHEYNE in his Principles tells us, that what ever Inferior Body falls towards the Earth, the Earth does in Proportion move towards the Body, as well as the Body moves towards the Earth; which is just as if one would pretend, that if the highest Mountain in the World, was suspended in the Air, one might set it a moving by throwing the least Grain of Dust against it, or that by presenting the least Needle imaginable to the biggest Loadstone that ever was found, the Stone would move towards the Needle, as well as the Needle towards the Stone.

SIR *Isaac Newton*, though he has by such like Philosophers been received as a very Great and Divine Man, he has proved himself to know as little of the Matter as they, and differs in nothing from them, any further than to have rendred his Productions more diffuse and perplexed than they have rendred their own; and even in respect to the Laws of Motion, which he is thought to be most perfect in, we see him as ignorant as his Disciples; for he every where appears to have made use of Gravity and Attraction, without knowing
what

what Cause or Nature they are, or what Share they have in the Motion of the Planets; for in his Optick, pag. 373. he pretends, that for to move the Planets, there was occasion for two Principles (meaning Gravity and Attraction) required, the one to put, and the other to continue the Planets in their Motion; tho' we shall hereafter find and be satisfied, that by the same Principle by which they have been put in Motion, they have likewise continued in it. Further, he has in the same Page, as well as in several other places, attempted to determine the Laws of Nature, according to the Conclusions he has drawn from those of Mechanicks, which is as wrong a Step as any Philosopher can be guilty of.

FOR to pretend to determine the Laws God has prescrib'd to Nature, by those we prescribe to Mechanicks, is just as if a Cook for to find out the Taste of his Sauces, would make use of some mechanical Contrivance or other, instead of making use of his Palate: Nevertheless, we see that most famous Author to have proceeded after that manner; for from a mere mechanical Observation, mentioned in the said 373d Page of his Optick, he has farther concluded, that there was not always the same quanti-

ty of Motion in the World, though there is nothing more evident ; but for to know the Truth of that Affair, we must come to the Laws of Attraction and Repulsion, and see how and after what manner God has applied them for to move the Machine of the World, and after we have found out that, we have an easy and sure way to find out the Nature, Swiftneſs, and Regularity of its Motion. But to determine mere phyſical Caſes by mechanical Obſervation, is the way only to fall into all ſorts of Abſurdities and Contradictions, as we find the ſaid Author to have done in reſpect to the planetary Motion ; for the firſt Principle (meaning that of Gravity) he has made uſe of, is perfectly Chimerical ; and to pretend the ſecond (meaning Attraction) to have any ſhare in the Motion of the Planets, is ſo very weak, that I am ſurprized to ſee any Thing of a Philoſopher ſhould be guilty of it, as long as we are ſatisfied that the attractive Power is of that Nature, as not to admit of a circular Motion, but always aims at a ſtrait liniar one ; and therefore inſtead of being any Aſſiſtance in a circular Motion, it only deſtroys it, as I have found by ſeveral Experiments made on that Occaſion.

WHERE-

WHEREBY I am satisfied, that if the Sun's Attraction had had any moveable Power upon the Planets, the World would have been destroyed as soon as it was created. And if the Planets were inclined to quit the Neighbourhood of the Sun, for to pursue their strait Line they are pretended continually to aim at, they would either have been dispersed in the Universe, or else they would have been suspended in the Air as so many Weights in *Equilibrium*, ^{one} which would unavoidably have been the consequence, if the *Newtonian* Principles had had any Share in the Matter. For if the Gravity or Endeavour of the Planets to move on in a straight Line, had been greater than the attractive Power of the Sun to retain them, they would soon have run away from it. And if the gravitating Power of the Planets had been equal to the attractive Power of the Sun, they would have been suspended in the Air as so many Weights in *Equilibrium*. And if the attractive Power of the Sun had been superior to the gravitating Power of the Planets, they would have been attracted towards it, and so met with their Destruction. And this Mr. *Whiston* seems to have perceived, when at the Translation of his Author's Mathematical Philosophy, he has applied to the immediate and continual

nual Interposition of God for to prevent that Fatality ; and I would fain know for what Reason he thinks God to have lodged that wonderful Power of Gravity, as he calls it, into the Machine of the World, if God had designed himself to be the Mover of it ?



P A R T XV.

Relating to the Cartesian and Newtonian Motion of the Planets.



U T to be satisfied, that neither the *Newtonian* Principle of Gravity, nor that of Attraction, nor the Density nor Elasticity of his imaginary Medium, nor the *Cartesian, Tourbillons, &c.* to have any manner of Share in the Motion of the Planets ; we have only to examine into the following Experiments, one of which (in respect to the *Cartesian, Tourbillons, &c.*) is, that when through a Hole we let the Sun's Light come into a darkned Room, we see all the perceptible Particles of Matter continually move on in a straight, but never in a circular

cular Line, which is an evident Demonstration, that there is no such Thing as a continual circular Motion in Nature, and that the *Globules* and *Tourbillons* of *Des Cartes* are nothing but a mere Dream ; and I am surprized to see a Philosopher have the Assurance to produce any Notion before he has examined into Nature to know whether it is consistent with it or not. But it seems, that in respect to the Machine of the World, Philosophers follow the Example of some Travellers, who after having been in very distant Countries, they will from thence report all sorts of very admirable and surprising Things they have never heard nor seen any Thing of, only for to render their Travel the more admirable among Ignorants, and to obtain what Complements they can of them ; and if they meet with any Body of too much Sense and Understanding to come in to their groundless and extravagant Pretensions, they will make it no Scruple at all to insult him as much as they can for it ; and it will be very much if I don't meet with the same Chance in respect to what we are here about, but that wont hinder me of disamusing the World, and of using every Impostor according to his Merit.

No doubt the *Cartesians* will pretend, the said Experiments not at all to touch their *Tourbillons* nor *Globules*, who regard (as they will say) the celestial Space, and not the Neighbourhood of the Globe we live upon. To which I answer, That this Globe being a part of the Machine of the World, as well as the Sun, and all the rest of the Planets, &c. it is certain, and absolutely undeniable, that whatever has any report with the Motion of the whole Machine, must have a report with the Motion of the Earth; and of consequence whatever has none with the Motion of the Earth, can have none with that of all the rest of the Parts belonging to the whole Machine.

As for the Fallacy of the *Newtonian* Motion of the Planets, we shall see it appear by one single Experiment, as well as that of the *Cartesian*; for when we sow a piece of Iron suspended in the Air with its Filings, we at the presenting it a Loadstone, see the Filings part towards the Loadstone a considerable Space of time before the piece begins to stir, and of consequence if the Sun's Attraction in respect to the Planets did but go as far as to stir the least Grain of Sand lying upon the Surface of them, we should in respect to the Earth see all what is moveable and dwelling upon it run towards the Sun,

as

as well as we see the said Filings run towards the Loadstone; and as we see the said Filings followed by the whole piece of Iron for to approach the Loadstone, so the Earth and all the Planets, &c. would at the first beginning of the World have approached the Sun, if its Attraction had had any moveable Power upon them. So that the World would have been destroyed as soon as it was made; but we seeing it yet subsist, it is plain enough, that the Attraction of the Sun, or a mutual Attraction between the Sun and Planets, &c. has no manner of Share in its Motion.

N O W as visibly it appears, that the Principle of Attraction has no Share in the Motion of the Planets; as visibly it will appear, that the *Newtonian* Principle of Gravity has no Share in it. For suppose God according to the Notion of that Author at the beginning of the World, to have given a mere Impulse to the Planets for to incline them to move on in a straight Line, and to have set the Sun's Attraction after them for to keep them back from that straight Line, and to make them describe a Circle round about the Sun, it would have been absolutely necessary for them to move slower and slower from the first beginning of the World

World till this present Moment ; for however subtil the Medium he pretends them to move in be, it could but have occasioned some sensible Diminution in their Motion from one Year to another. But as long as it appears, that ever since the first beginning of Astronomical Observations, every Year to have had the same Number of Days, and every Day the same Number of Hours, and every Hour the same Number of Minutes, &c. it is very plain, that the *Newtonian* Principle of Gravity has no manner of Share in the planetary Motion.

IT is true, that if the imaginary Medium of that Author was able to forward, and not to hinder the Planets in their Motion, as he does in the 326 & 327 Page of his *Optick* pretend, it would have been possible for them always to continue in the same Degree of Velocity ; but whoever can come in to that Pretension, may come in to any Contradiction ; and whoever believes a *Fluit* could possibly be so very rare as not to occasion any sensible Resistance in the Motion of the Planets in 10000 Years (as he pretends in the 327th Page of his *Optick*) may as well believe two times two to make 120. Besides this, in some places of his *Optick*, we see him pretend the celestial Space only to contain

contain his imaginary Medium, and in others he allows it to be mixed with the Sun's light, which at least would redouble the resistance of the Motion of the Planets, and thus we see him every where confound and contradict himself. And suppose that Medium to be Existent with all the Properties he does in the 325 Page of his Optick ascribe to it, the Planets would be no more able to be moved by it, than so many Rocks; for whatever that Medium would have more in Density of the side of every Planet opposite to the Sun, it would have more in Elasticity at the side of every one towards the Sun; so that those two Powers would be perfectly equal to one another, and of consequence that Medium would equally press all round upon every Planet, and instead of inclining them to move one Way rather than an other, it would keep them perfectly immoveable.

BUT no doubt all the Truth asserted against that most fabulous and absurd Motion of the Planets won't be sufficient to the above-mentioned most violent and unequitable Defender of that Author, who, after all the dispute we had on that Purpose, told me, that whoever would pretend to overturn the Planetary Motion

of that greatest, and most modest Man that ever lived in the World, as he pretended him to be, was to do it by overturning his System of Parabola's, which is just as if one did pretend that for to cut down a Tree, one was to climb at the top of it and cut down all its Branches before one was to come to the Root of it. For that most erroneous Motion of the Planets being grounded upon Gravity and Attraction, Density and Elasticity, the way of refuting it is of consequence by shewing that none of those Principles has any share in it. But however to be satisfied that it is no more protected by his perplexed System of Parabola's, than by the Principles now mentioned, we have only to come to the following Considerations, by which we shall find that whatever impulse Projectiles receive, there is soon an end of their Motion, not because they have a coarser Medium to penetrate than the said Author pretends the Planets to have, but because they are continually acted upon by the Attraction of the Earth; for in respect to the resistance of Air they might move 10000 times farther than they do, if they were not retained by the continual attractive Power of the Earth. And suppose in respect

spect to the Planets, we did allow the Celestial Space to be as empty as the said Author pretends it to be, the same consequence we observe between Projectils and the Earth, would nevertheless have come to pass between the Sun and the Planets, &c. if its Attraction had any movable Power upon them. For just as the Bullet of a Cannon, &c. is soon brought out of its straight Line into a Curve, in order to be carried towards the Center of the Earth, so the Planets, &c. would soon have been brought out of their straight Line into such a Curve, as would have carried them towards the Center of the Sun, and occasioned their Destruction, if its Attraction had had any moveable Power upon them. It is true, that if God Almighty had continually been at the Heel of every one of the Planets, &c. for to give it a new Impulse as soon as the first might have been lost, it would have been an easy Matter for them to escape the Attraction of the Sun, and to move about it after the manner the said Author pretends to; but if God Almighty had design'd so to do, what need would he have had for either Gravity, Attraction, or any other of the said Author's fabulous and absurd Inventions?

IN respect to the Manner and Time of the Motion of the Planets, *Ptolome* and *Ticho* have since *Copernicus*, been blamed for having made the Sun gallop round the Earth in twenty-four Hours, but I think there is much more room to blame Sir *Isaac Newton*, and his like, for making the Earth gallop round about the Sun in a Year. For the Sun being a Globe of Fire, there is much more appearance of its being capable to move round about the Earth in twenty-four Hours, than there is for the Earth to be capable of moving round about the Sun in a Year, if according to Sir *Isaac Newton*, it had so vast a Circle to describe, as would oblige it to move as swift as the Bullet of a Cannon, which not only is a Madness to suppose God Almighty to have obliged the Earth, or any one of the Planets to so violent a Motion, but we are likewise satisfied there is no such thing : For if there was any such thing, the Stars should seem to us to run infinitely swifter than the Trees, Hills, and Towns, along the River Side, on which we go with a Boat. But as long as there is no such thing at all perceived any farther than what is owing to the rotal, or central Motion of the Earth, it is very plain
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its Progress does by no means come up to that of the Bullet of a Cannon; and of this any Body may satisfy himself, without the help of either *Telescope*, or any other Mathematical Instrument. Besides, if the Swiftnefs of the Motion of the Planets did come up to that of the Bullet of a Cannon, it would have been impossible for Astronomers ever to have got the sight of them; chiefly of those who are nearest to the Sun, who would all have whisked round it in such a hurry, as to escape the Observation of the best Astronomer, and of consequence, none would ever have come to know, whether there are any more Planets besides that we live upon, or not. Another Thing which proves the Fallacy of that violent Motion are the Eclipses, which we should be scarce sensible of if the Parts of the Machine of the World were Subject to so violent a Motion.

ACCORDING to all Appearance, we have Reason to conclude, that never any Planet quits the Region, in which God Almighty has formed it, or else if they do move round about the Sun, every one will describe a Number of interwoven Circles, instead of describing a single and distinct

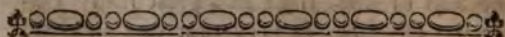
finct one, but which of those two possible Ways, they move in. I leave it to the discovery of more discreet and diligent Astronomers, than we have had hitherto, or else to such a time as I may my self have past some Moments in the Observatory; which though I have never yet done, I am entirely satisfied that the Way and Time in which Sir *Isaac Newton* pretends the Planets to move round the Sun in, is entirely false and erroneous, Nor do I know how he should have found out the Truth of that Matter, as long as he is not come to the Truth of such things as have been lying under all his Senses.

So that all the Good we can say to have hitherto been done in respect to the Machine of the World, is the Suns having at last been put into the Center of it, and even that good Step, seems to have been done by Chance, rather than by Discretion; because he who has done that laudable Step, has in the mean time given the Birth to the Plurality of Worlds, which shews more Madness, than the other shews Discretion; nevertheless, we find it has not been mad enough, for some of our modern Authors. For *Copernicus* has carried the Matter no further than to imagine the
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the Exterior of every Planet to be inhabited. But Dr. *Halley*, and his Followers, have crowded some Inhabitants into the very Center of the Sun, Planets and Satellites, &c. and others, as Mr. *Fontenelle*, &c. have made all the fixt Stars so many Suns of particular Worlds, whereby they don't only shew a prodigious Extravagance; but likewise an extreme Ignorance, for if they did know what belongs to a World, they would not pretend every fixt Star to be the Sun of one, since in a great many Places we see them so very near one another, that there would not be room for one single Planet, and for to make a World there is a Number of both Stars and Planets, &c. required. As for Sir *Isaac Newton*, we likewise find, that all the rest of his wild Notions would not have been enough for him, if he had not ended them by a Plurality of Worlds. See his *Optick*, Page 379.

THE Comets we find to be looked upon, not only as so many wandering Planets, but likewise as so many both external and central inhabited Worlds, tho' there is nothing more visible than their being but so many Meteors, which owe their Birth to nothing else but to the Exhalation of the Sun and Planets, &c.

an evident Proof hereof are their Tails, which I would fain know what our modern Philosophers think them to be, but so many Particles of Fume and Flame, flowing from their Bodies, as soon as by Fermentation they have taken Fire, and just when they are thought to take their leave from us, for to begin their Journey into Foreign Countries, they are at the end of their Consummation.



PART XVI.

Relating to the Cartesian and Newtonian Motion of Animals.



IN respect to the animal Motion, we see both *Des Cartes*, and Sir *Isaac Newton* to have produced as out of the way Notions, as they have produced in respect to that of the Planets. For the one (meaning *Des Cartes*) we see to have declared Beasts to be but mere Machines, and this he seems to have

have done for to prove the Immortality of the Soul, as if the denying in Beasts what they are most evidently in Possession of, would add any Thing to the Perfection of the Soul.

SIR *Isaac Newton* has behaved himself ten thousand Times worse. For if according to him, Animal Motion did depend on the Vibration of his imaginary Medium, as he says in his *Optick*, pag. 328. the consequence of it would be, that Men should either live for ever, or the Soul to be mortal; for that Medium being never absent, its Effect could but continue one time as the other; and its Particles being of so prodigious an Agitation as he pretends to, they would never suffer any Obstruction to take place, neither in the *Capillamenta*, or Fillets of the Nerves, nor in any other part of the Body, which only comes to pass for want of such a Vibration in them, for to hinder dead and destructive Particles of taking place, and occasion the destruction of the Body. So that whenever we did see any Body, and chiefly a Phlegmatick one die, we should ascribe it to the Fallibility of the Soul, and not to the Fallibility of the Body; who as long as the Vibration of the said Medium did agitate its Parts, it would be able to
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continue in good Order, and capable of executing the Commandments of the Soul; so that it could never come to be destroyed without the Destruction of the Soul.

THUS are the Inconveniencies that most famous Author has run himself into, in respect to his imaginary Medium; which, if it was existing with all the Properties he ascribes to it, it would but render his Philosophy as absurd and contradictory as possibly could be imagined. And I would fain know what need he had for that Medium to move both Planets and Animals, since he believes them to be moved by the immediate and continual Operation of God Almighty? Nor do I know how he could pretend that Medium to be capable of so prodigious a Vibration, after he had declared Matter to be entirely Passive. Nor do I see how his Followers could look upon all his Absurdities and Contradictions as so many Miracles mathematically demonstrated, only because they are grounded upon an infinite Number of blind, perplex, and out of the way Experiments, well seasoned with Lines and Numbers; for as soon as most Readers meet with such a *Ragou* in any Philosopher's Writings, they receive it as the most delicious Regale that possibly could be offered

offered to them; for, says they, it is all Mathematical, and what can be more evident than Mathematicks?

AND I could name even a Man in Years, and very much in Vogue for his Sense and Learning, whom at his pretending the said Author to have demonstrated the Nature of the planetary Motion better than even any Philosopher did, I asked, whether by the word Gravity and Attraction, his Author meant one or two Principles? He was so confounded by my Question, that he did not know what Answer to make; which indeed I did not much wonder at, for that Author has made such a confounded Mixture of his Gravity and Attraction, that I doubt whether he himself knows what he means by it; but I wonder to see even his most famous Disciples to make him a Divine, and to pretend all his Productions to be so many Miracles, without knowing any Thing of them. And what is still worse, is to see, that though his Philosophy be as fabulous, dark, and perplex. &c. as possibly can be, they do even therefore admire and pretend it to be of so very penetrant and divine a Nature, as to be impossible for humane Capacity thoroughly to understand it. Which shews, that whatever

ever Author has a Mind to be Divinis'd by careless and short sighted Readers (who, as I find, make much the greatest Number) has only to produce such a Mixture as that of the said Author; and this he seems to have known before he went about it, and to have therefore proceeded according to what we have observed. For it is impossible for me, as a new Beginner in Studies, to suppose a Man who has past the best part of his Life in searching for Truth, but what might have produced more of it, than that most famous Author has done. if he had been serious and faithful in the Matter.





P A R T XVII.

Relating to the true Motion of the Planets.



AS for the true Motion of the Planets, it is as visibly depending on the sole Principle of Fermentation, as it is visible that all the Notions hitherto produced of it, have no manner of Share in it. For Fermentation does not only manifest it self to include the greatest force Nature is capable of, but likewise does manifest it self to be the Principle by which Nature produces most of its Effects. For all the Productions of the Earth, the Flux and Reflux of the Sea, the Vibration of the Air, the Wind, Thunder, and Lightning, the Motion of the Clouds, that of the Planets and Animals, and whatever Motion there is in the whole material World, originally flows from the sole Principle of Fermentation or Repulsion, and Repulsion from the different Temperaments in Matter ; for it is by
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the help of them the parts of the Sun and Stars, &c. are kept in that violent and continual Agitation, their Light proves them to be in. And it is by the help of that Agitation the Sun sends its Heat to the Planets and Satellites, for to keep their Parts in the degree of Agitation required for their Motion ; for though by the different Elements they are composed of, their Parts be subject to a continual Agitation, or Extension, and Contraction, it would not have been sufficient to make them attract the necessary Quantity of Heat and Moisture, for to keep them in Fermentation, and by Fermentation in Motion, after the manner we are a going to prove them to move. And much less would the Parts of Animal Bodies be capable of so great an Agitation as their Motion requires, if it was not by the help of the Sun's Heat ; wherefore, the Sun may very well be called the Soul of the material World.

WHEN, I say, that whatever Motion is in the whole material World, does originally flow from the sole Principle of Fermentation ; I take it in its most general, and not in its most limited Sense, as it is commonly taken ; for in its strict and limited Sense, it only includes the Principle of Repulsion : But in its general and original Sense, it includes both
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Repulsion and Attraction, which equally depend on the Extension and Contraction; *or* of the Parts of Bodies; and the Extension and Contraction; or continual Agitation of their Parts depending on the different Temperaments of the Element's Bodies are composed of, it is ~~either~~ improper nor unnatural to use the word Fermentation under so general a Sense as I do use it.

Now to know after what manner it is possible for Nature to move the Planets, by the mere help of Fermentation; we have only to consider the Heat and Moisture they are continually receiving by Attraction, or the Extension of their Parts, and avoiding by Repulsion or the Contraction of their Parts; where we shall find, that by their Exhalation, or the voiding of Vapours they continually act upon the Air, and thereby they were able without any further help to set and continue themselves in Motion just like a *Fusée* (tied by its middle to a slender string) sets it self and continues in Motion as soon as the *Gunpowder* begins to play against the Air, with that difference, that as the lighted *Gunpowder* is in a most violent Degree of Fermentation, it sets the Body it is contained by in a Degree of Motion proportionable to that of its Fermentation; and so does the Fermentation

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on of the Planets, &c. which being of a great Moderation, it makes them move accordingly, as we observe by the Earth, who takes twenty-four Hours to make one single Revolution.

AND what does prove this Motion of the Planets to be well-grounded, is, That we see every one observe a Swiftneſs of its Motion proportionable to its diſtance from the Sun; for as thoſe who are neareſt to the Sun, muſt of conſequence ferment more than thoſe who are furtheſt of; ſo we find the Motion of thoſe who are neareſt, much ſwifter than of thoſe who are furtheſt from the Sun. And that the Exhalation of the Planets, &c. does with a conſiderable ſtrength act againſt the Air, I am ſatisfied by the Effect we obſerve by the Flame of a Candle, which very ſtrongly tends directly from the Center of the Earth, when the Candle is carried upſide down, as well as when it ſtands upright; which is for no other Reaſon, but for the Exhalation of the Earth's acting againſt it. And the ſame is obſerved in reſpect to the Tail of a Comet; which, according to *Robault*, &c. runs round the Body it flows from, whenever it comes to be directly oppoſite to the Sun, which is owing to nothing elſe but to the Exhalation of the
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the Sun's being of a greater Strength than the Tail, or Exhalation of a Comet, it makes it return towards its Body after the manner the said *Robault* mentions in his Physicks.

AND as a *Fusée* lighted at both ends, and managed after the said manner, describes a less Circle than another lighted only at one end ; so the Sun and fixt Stars can but describe less and more insensible Circles than the Planets and Satellites, because the Exhalation of Sun and Stars is equally strong all round about their Bodies, and that of the Planets and Satellites is always stronger on the Sun's side, than on the side opposite to the Sun. And though the Motion of the Stars be entirely insensible to our Eyes, it is, nevertheless, certain, that if the Sun appears to move about its Center, the Stars will do the same ; and neither Sun nor Stars being fixt by their Centers, they will describe Circles as well as the Planets and Satellites, however little they be.

No doubt, but those who have no Notion of the true System of the World (as I believe very few or none at all have) will think it very silly in me to pretend the Planets, &c. to be capable of being moved by so weak a Power as the Pressure of their Exhalation operating upon the Air ; but who-

ever should have any Notion of the true System of the World, will soon be satisfied, that whatever vast Bigness the Planers, &c. be, they not tending, nor being tended one way more than the other, they are as easily to be moved as every inferior Body suspended in the Air near the Surface of the Earth; wherefore it is not at all to be doubted, but they may move by the help of their Exhalation, it being of the Power above-mentioned.

So that the Matter being rightly understood, we find, That God instead of wanting a Number of Principles for to move the Parts of the Machine of the World, his infinite Wisdom required no more than a single one; and that instead of being obliged continually to assist that Principle, he has enabled it by it self to perform that Function for ever, if his Author did require it. As also we find, That God instead of being obliged to a continual Creation to make the World subsist, he has found such Ways and Means as to order Things, so that what is a Loss in one place, is a Gain in the other; and what would be a Destruction to one part of the World, is a Conservation to the other; and does not all this make God infinitely more glorious, than to pretend him to have produced

produced the World in the Imperfection Sir *Isaac Newton*, and his like, pretend to? And is it not therefore much more worthy in a Philosopher to follow the true Steps of Nature and Reason, than to invent such Hypotheses as are directly against Nature and Reason, as well as against the Glory of God Almighty? The Reason why the Inventors of the Plurality of Worlds are (without any reasonable Room or Agreement with the System they have given us of the World) fallen upon the Notion of every Planets belonging to this World being inhabited, and of every fixt Stars being the Sun of a particular World, is, because they did not know the use of either Stars or Planets, &c. tho' it is very visible, that if it was not for the Planets, &c. the Sun, and of consequence the whole World, could not possibly subsist. Likewise if it was not for the Stars, Nights would not only be unsupportably Cold, but likewise all the Roads, by Land, as well as by Sea, would be entirely unpracticable, in such Nights as the Earth is not illuminated by the Reflection of the Moon or Stars. For without either Star or Moon, light Nights would be so prodigiously dark, that no Man would be able to see the other, nor could any one know how to stir a Step.

P A R T XVIII.

Relating to the true Motion of Animals; and shewing farther, That the Soul is a Being entirely different from, and above the Body; how and after what manner every one may preserve his Health, and prolong his Life, as far as the Constitution of his Body will allow it.



AS for the true Animal Motion, though it depends on the different Temperaments of the Elements they are composed of, as well as that of the Planets; and though it therefore being as Mechanical as that of the Machine of the World, it is nevertheless infinitely more artificial and wonderful than that of the World, notwithstanding Philosophers make infinitely more Noise about that of the World, than about that of Animals; though the one is infinitely more

more necessary for us to be thoroughly acquainted with than the other. And this very probably they do, because they know that all Wonders reported out of foreign Countries are commonly more valued than those we report from Home. For when we inquire into the numberless and various Parts of our Bodies, their wonderful Contrivance, Situation, Offices, Communication and Harmony, we cannot enough admire the Artificer of them; for however Reverse they be in their Nature and Inclination, we see every one of them under an unavoidable Obligation to answer the general End; and however distant any one be from the Residence of the Soul, it instantly (through the Fillets of the Nerves, &c.) gives Notice to it of whatever Danger it perceives in its Neighbourhood, and likewise executes the Orders of the Soul, as soon as they are (by the same Means) conveyed to it. And however material our Limbs be, we find every Joint of them provided with such reversely inclined Muscles, as continually keep it in a perfect Balance, for to enable the Soul to bend them forwards and backwards, with a great deal of more ease than we are able to incline a Balance either one way or the other: And however easily all the Limbs in general, as

well as the whole Body in particular follow the Direction of the Soul, we find the whole Oeconomy of the Body much easier, it altogether being very wonderfully and strictly observed, without the Soul's lying under any manner of Care or Trouble about it ; which does in the mean time very evidently prove (against Materialists) that the Soul is a Being entirely different from and above the Body, for without its meddling either direct or indirectly, we find the Stomach digests all the Victuals, and by the proper Instruments it sends the most essential part of it to the Heart, and by the Heart it is forced throughout the whole Body. And to preserve the Heart from being inflamed by the Heat of the Blood, and its violent and continual Agitation, and for to renew the Fermentation of the Blood by fresh Air, the Lungs are obliged to a continual Extension and Contraction for to attract whatever Quantity there is required of that Element ; and as soon as the Blood has expend the nourishment of one Meal, it runs towards the Heart again, for to receive a new Supply expected to be sent from the Stomach, like as before. And as long as the Stomach continues in the requisite Order and Strength well to digest, otherwise speaking, to disjoin the Victuals,

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and to give the Chyle a sufficient Impulse for to be carried through the whole Body, and thereby to dislodge the dead and excremental Particles of the foregoing Meal, the Body will continue in good Health and Strength; but as soon as the Stomach begins herein to fail, Obstructions take place, and the Body goes towards its Destruction, and so obliges the Soul to part from it.

So that the two capital Things we have to observe, both in respect to the Preservation of our Health, and the Prolongation of our Days, is to live soberly, and to endeavour to keep the Stomach in good order by clearing it now and then of the Humours left by undigestible Victuals, and to strengthen it with such Stomachs as may be most agreeable to every ones Constitution. And this way of proceeding will be most necessary for Phlegmatick People who are to repeat those Remedies several times a Year, while others have only to come to it once a Year. And after the Stomach being thus prepared, and absolute necessary Bleedings us'd, we ought to come to proper Purges, Sweatings, and moderate Exercises, which together being rightly applied, it is possible for any Body to enjoy a perfect and continual Health, and to live as long as the Providence of

God and the Constitution of his Body will allow it.

As for the Benefit of a Vomit, I have asked several Physicians about it, but none could tell me all the Good it is capable of; for we thereby not only clear the Stomach of destructive Relicks, left by undigestible Victuals, (as it is generally believ'd) but we likewise do by that Operation stir all the Humours in the Body, and so dislodge a great many Excremental ones, which in time would be very difficult, (if not impossible) to be removed, wherefore the Inventer of that most excellent Preservative, whether he knew all the Good it is capable of, or not, deserves an everlasting Admiration for it.

WHEN, I say, Sweating is a very excellent Remedy, I don't mean the Sweating in a Bagnio, but the Sweating by Exercise, or in a Bed, by taking such balsamick Things as may be a Comfort to Nature, after it has by their Help dislodg'd such destructive Humours, as Nature by it self, would never have been able to banish out of the Body.

Now as in respect to the œconomy of our Bodies, we have observ'd every Part in particular, as well as all in general, to be

be able to perform their Function, without the Souls being oblig'd to meddle, so all the Parts belonging to the Machine of the World, are able to perform their Functions without God Almighty's being oblig'd to meddle. And as the Soul does by his immediate Presence perceive and discern the Things carried through the Organs of Sensation into his Sensorium, so God did know all whatever will come to pass in his Works before he laid the Foundation of them; and whoever does with Sir *Isaac Newton* ascribe him a Sensorium, for to perceive Things when they come to pass, denies his fore knowledge, and makes him as imperfect as any humane Creature.

AND if according to the same *Newton*, God was the mover, &c. of all the Parts of the Universe, he would of consequence be the mover of all the Parts of our Bodies, and so have an Office very much inferior to that of our Soul; and that Philosophy generally leading to such prodigious Absurdities, how then would it be possible for any Man of Sense that believes and venerates a God, to approve of it, and to have any esteem for its Author? And from that way of proving the Existence of God, we see him in his *Optick*, page 378. come
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to another as silly as this is infamous. For there he tells us Animals generally to have a right and left Side shaped alike, and on either Side of their Bodies, to have two Legs, or two Wings before upon their Shoulders, and between their Shoulders, a Neck running down into a back Bone, and a Head upon it, &c. all which is no more than any Child could have told us.

AND this we find to be the general way of Philosophers. For we commonly see their Writings fill'd up with little or nothing else but what falls under the Observation of every Body, nevertheless the Account of such very manifest Things being mix'd with a Number of as marvellous as fabulous Inventions, roll'd up into a very eloquent Language, extremely admiring the Absurdities and Contradictions it contains, they are by careless and dark-sighted Readers (which I find to make much the greatest Number) look'd upon to be so many Miracles, and after they have gone through with them they think to know every thing, when in the mean while they know less than before. When I say less than before, I mean of Truth, which by such Writings, People are entirely led out of, instead
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of being led into it, but of empty Words and Sounds, they commonly appear to know more than their Memory can well hold. Several others in their Way of proving the Existence of God, have taken recourse to Pictures, Architecture, and other humane Workmanship, as if Nature did not contain Evidences enough to prove that most important Point, without being oblig'd to come to such like Comparisons.



P A R T X I X .

Being a more particular Demonstration of the Existence of God.



OR to prove the Existence of God and the Excellency of his Works, we must in respect to the material World come to the Formation of Things, and shew that God has found ways and means to provide every Particle of Matter with such Properties, as enable it to follow the Laws of Nature on all Occasions, and that notwithstanding the different Temperaments of the
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said three general Divisions of Matter, all the Particles of those Divisions, or Elements be subject to fly from one another, instead of being inclined to approach one another, God has found a way to prevent it, by endowing them with such hooky Surfaces as oblige them to keep together, notwithstanding their being continually at Work, for to part from one another. And it is by that endeavour the Parts of the Sun and Planets, as well as those of Animals, &c. are kept in a continual Agitation, and by that Agitation, the whole Machine of the World, as well as that of all Animals is kept in Motion.

FARTHER in respect to the Progression of Animals, Vegetables and Minerals, we find, that tho' whatever Operation every Particle of Matter is capable of, consists in nothing but Extension and Contraction, and thereby either to attract or to reject one another according as by their Temperaments, they are tolerable or intolerable to one another; we see God Almighty to have by the meer help of those Properties of every Particle of Matter, order'd it so very wisely, as to enable Nature to form all Animals, Vegetables and Minerals without

out at all requiring the immediate help of his Author, any further than what relates to a moral Good or Evil.

AND tho' in the Formation of our Bodies, all the Particles of Matter applied to it, be introduced without Distinction, yet God has by the said Properties enabled the Agent of every different Part of our Bodies, to reject all the improper Particles, Nature does confusedly send to him, and to receive such as are most proper and convenient for the Part, God has made him the Constructor of, just as if he had the Discretion of the best Workman of any Artificer. And this exact and wonderful Observation of every Agent, we don't only find to answer the Form, Size, and Solidity, but likewise the Colour, &c. of the Part he is at work upon, so as even to exceed the best humane Artists. And for all that none of them knows any more of what he is a doing than a Founder knows of any Statue, he is by the Sculpture of it, employ'd to cast. For just as such a Sculpture has prepared the Mould of the Statue, and thereby rendered the Founder of it incapable to err, and produce the Statue in any manner different to the Shape and Size of the Mould, so God has by the said meer
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mechanical Laws rendered the Agent of every part of our and all Animal Bodies, &c. incapable to err, and to form the part he is Agent of in any manner different to the Rules and Limits God has prescribed him, excepting God does for some moral Reason or other think fit to make him act quite contrary to the Laws and Limits pre-established. So that where-ever we see Nature to have in any advantageous or disadvantageous manner acted contrary to the common Rules, we ought to conclude God to have either directly or indirectly had a Hand in the Matter.

Now however visibly and wonderfully we have seen the Existence and Perfections of God appear by what we have observed in respect to the material World, we shall see them much more visibly and wonderfully appear in the spiritual World. For however marvellous the Operations be in the material World, they all appear to be of a mechanical Nature; but in the spiritual World we find every Thing free and intelligible, that is to say, spiritual Beings are not only able to act, when, and on what Occasion they please (which material ones are not) but they are likewise sensible of the consequence of whatever they go about.

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BUT notwithstanding all the Perfections we do by our Soul find spiritual Beings to be in Possession of, we are in the mean while satisfied of their being incapable, either to change the Nature of themselves, or any Thing else; nor are they able to annihilate themselves, or any Thing else; much less can they be supposed to have produced themselves, or any Thing else. How then could the material World, or any Part belonging to it, be supposed to have produced its self? Nevertheless, we see it exists, as well as we see our selves exist. How then could all this be if there was not a Being above all, who has produced us, and all what exists besides us?

AND the Thing being thus considered, how then could any Body of common Sense suppose every Thing to have been from all Eternity, in the same State and Order it now is? Besides, if the World had been from all Eternity, how could it be possible Men should yet be ignorant of so many useful Discoveries? But very likely hereupon Atheists will answer, that all Knowledge has been lost at the time of *Noah's Flood*. But how then came *Noah* to know of that Flood? Was it not by the Being in question? And suppose *Noah* had
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by his or some other Man's Skill and Ingenuity come to know of the said Flood; why should not he be supposed to have saved all Humane Knowledge, as well as he saved himself and his Family, as also a Race of every sort of Animals, &c.?

BESIDES, if there was no such Thing as a first Cause, or productor and supreme Ruler of all Things, whence would it come that all the Production of the Earth and the Progression of Animals should go on in so infallible and wonderful an Order? For if all did depend on the blind Faith of Nature, I don't see why it should not every where produce Men, and all other Animals, as well as all sorts of Vermin. Nor do I know why we should not see Mushrooms and other Vegetables grow upon Trees, as well as Apples and Pears, &c. Nor do I know why the Earth should not every where produce Trees, as well as Grass, and inferior Plants. All which would doubtless come to pass, if every Thing did depend on the blind Fate of Nature. But as long as we do in every respect see the contrary, it is plain enough, that all the Effects of Nature depend on the Direction of a supreme Ruler; and where-ever he has omitted to lay the Foundation of either Animal, Vegetable
or

or Mineral, Nature is entirely incapable of composing or producing any. Nor does all that we have observed allow us to suppose Nature in any respect to be able to act contrary to the Laws and Limits prescribed by its Author, without its being direct or indirectly assisted by the same.

So that the farther we examine into the Nature of Things, the more we find them manifest a first Cause; and the more those who deny it, are proved to be in a most dangerous and most impardonable Error; and I am surprized any Body of common Sense should harbour such a Notion, as must of Necessity deprive him of all Happiness. For it is absolutely impossible any Body of such a Notion should be of an easy Mind, and without an easy Mind, all the Health, Riches, or Grandeur any Body can possibly be in Possession of, are incapable of furnishing him with a perfectly chearful Moment. Wherefore Atheists, if it was but for the sake of their own private Satisfaction, should endeavour to banish a Notion which can only keep them in a continual Torment and Uneasiness of Mind.

AND, what can be more unreasonable or more ungrateful in any Body than to endeavour to escape the Duty he lies under

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in respect to his producter and continual Benefactor, by denying his Existence ? For though God has not produced us according to the said Philosopher, and his like, in such an Imperfection as to be himself obliged to move all the Parts of our Bodies, and to furnish us with every Thought, &c. we have occasion for ; we do nevertheless at every Instant depend on his Mercy, for as he has given us our Being, so he can at every Instant take it from us ; for if he did but withdraw the mere Element of Air, we should not be able to live one single Minute of time, but should all die for want of it, as so many Fish die for want of Water. Likewise, as it lies in his Power of making us eternally Happy, if we live according to his Commandments ; so it lies in his Power to make us eternally Unhappy, if we live in Opposition to them.





P A R T XX.

Shewing to what Degree Humane Nature is in our Age degenerated; how and after what manner it may be redressed.



U T most People instead of living according to the Dictation of their Reason and Conscience, otherwise speaking, according to the Will and Pleasure of God, and the Benefit both of their Soul and Body, they not only follow the full Career of their corrupted Nature; but they even force upon it to so prodigious and abominable a Degree, as to exceed the wildest Brute living in any Forest. For amongst Brutes we see every one satisfied to have his necessary Subsistence, but amongst Men we see such as would put themselves in Possession of all that they can lay their Eyes and Thoughts upon. Amongst Brutes we never see any eat or drink as to burst, or to throw themselves into any Distemper; but

amongst Men we see a considerable Number drink, some to such a Degree as to throw themselves into one or other incurable Distemper, and others to die upon the spot. Amongst Brutes we never see any quit neither their Kind, nor the natural Road of their conjugal Pleasures ; but amongst Men we see some accused of one another of those Abominations. Amongst Brutes we see a great deal of Love, Justice, Compassion and Gratitude, &c. but amongst Men we see a great many Laugh at those, and all other Vertues. Amongst Brutes we seldom see any of the same kind insult one another without Offence ; but amongst Men we see some cut the Throat of others, who never gave them any manner of occasion. Brutes we find to have both Love and Fear for their Masters ; but amongst Men we see a great many laugh at their Masters, Sovereigns, and Creator.

So that whatever way we examine into the State of Men, we find a considerable Number lead a Life infinitely more indiscreet and blameable than the wildest Brute living upon Earth. And this most deplorable and astonishing Condition of Humane Nature should all along have been the Business of Philosophers to find a Remedy for ;
but

but instead of so doing, they have spent their Time in calculating Eclipses, and other such like Amusements as are of no manner of Service, neither to God nor to Men. However it is better they have spent their Time in that fruitless Way, than to have any further medled with Morality, and to have increas'd the Notions they have produc'd on that Purpose, on which as we have observed, all which has been produced, even by our most famous modern Authors, chiefly by Sir *Isaac Newton*, and his like, does more tend towards the entire Destruction of it, than to do it any manner of Good. For let a Man be inclined either to *Atheism* or *Predestinism*, he will find a perfect Nourishment for it in that most famous Philosopher's Writings, both which instead of engaging any Body to bridle his naturally corrupted Inclinations, they invite every one to lead that most abominable Life, we observe amongst a great Number of Men. And I am surprized to see even such as pretend to a great deal of Sense and Piety, to take up and protect so unreasonable and terrible a Notion as that of Predestination, which being duly examin'd, it does not only appear to be as bad as *Atheism*, but a great deal worse.

For I believe every Body of Sense and Reason, would rather have a Man he is a continual Benefactor to, pretend not to know any Thing of him, than to pretend him to be the greatest Villain upon Earth, as God Almighty is by that wild and most infamous Notion of Predestination pretended to be.

AMONGST Divines, who should be the chief Protectors of Morality, otherwise speaking, of the Glory of God, and the Felicity of Mankind ; we see as great Abuses amongst them, as amongst Philosophers. Whence we have Reason to conclude, that most of them have as little Notion of God, as most Philosophers seem to have. It is true, we generally find them invite their Auditors to observe their Duty in respect to both God and Men, but most of them, as soon as they come out of the Pulpit, they shew as bad Examples, as any of their Auditors could be capable of. And I do even remember one of them, who us'd to laugh at People for going to Church to hear nothing but fabulous Stuff, as he lookt upon the Bible to contain.

So that in respect to most of the Clergy, as well as in respect to most of other People, we find it is come to that pass, that

that as soon as a Man of Honour and Integrity pretends there is a God, and the Bible to be his Word, he is by that perfidious sort of People, lookt upon, to be but a very ignorant and silly Blockhead. Wherefore there is no Wonder we see the World in a continual Flame and Confusion, nor would it be possible for it to subsist, if it was not for the sake of that small Number of People, in whom the Image of God appears to have taken Place, which tho' I have yet met with a very small Number of, I must nevertheless confess to have met with some in all Professions and Ranks of People, chiefly amongst the Clergy, I have met with such as I am persuaded they did not only invite their Auditors to observe their Duty, in respect to both God and Man, but they did themselves live as they desired others to do.

BUT however this is neither the true Way nor Time of protecting Morality, otherwise speaking, to suppress vicious, and to increase virtuous Inclinations in People. For to meet with any Success in that most important Affair, we must not stay till Vice has taken place, but we must begin in such a Season as we may be able to prevent its taking Root, chiefly in respect to

such People as appear at the Head of the World, and whose Example all the rest is proud to follow; and they being likewise most able to observe the following Rules, I shall chiefly address my Discourse to them, in order to satisfy them, that the true Way of banishing vicious Inclinations out of the World, is, that by which they are come into it, and as they have taken their first entrance by the Female Sex, so we must chiefly by their Assistance, endeavour to banish them out of it.

AND we being satisfied by a Number of exterior and undeniable Marks, as well as by interior Observations, that whatever Impression a Mother makes upon her Mind, partakes in her Child; it is certain, that if a Mother instead of giving full Bridle to her Passions, and of entering into all sorts of dangerous Conversations, she did use her best endeavour to bridle her Passions, and to frequent Churches, moral Writings, and such Company as she might be sure to meet with good instead of bad Examples, her Child instead of being influenc'd with all sorts of vicious, it would be influenced with all sorts of virtuous Inclinations. And to enable a Mother in so much more to observe so salutary and most beneficial Rules,
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it will be necessary for her Husband, and all the Family, as well as every Body else, to look upon her as a sacred Person, for all the Time she is with Child.

AND in order to have a Child obtain a Spirit of Ingenuity, as well as of Virtue, it will be further necessary for his Mother to see and lead her Inclination towards such Things, and the Conversation of such People as are able to give her such Accounts as include Ingenuity and publick Good, as well as private Delight and Satisfaction.

AND when a Child is come to appear in the World, the chief Thing will be to give it good and useful Learning, and to keep it humble, sober, and obedient, instead of filling it up with Pride and Libertinage, as most Parents, and chiefly Mothers use to do; and thereby instead of making it an agreeable Object to the Publick, and their Parents, they make it an abominable and insupportable one; and instead of seeing it die a natural Death, they will see it die a violent one: And I dare say there is seldom a Child who dies a violent Death, but what the Mother's Mismanagement is the chief occasion of.

As for the Father of a Child, it will likewise be necessary for the sake of his own
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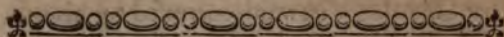
Credit and private Satisfaction, as well as for the Glory of God, and the Felicity of his Children, to bridle his Passions, in order to prevent his contributing to any criminal Inclinations in his Children; which, tho' by the virtuous Life and Behaviour of the Mother, they may in some manner be corrected, yet the root of them will never be taken away.

AND that the Passions of the Father have a considerable Share in the vicious Inclinations of his Children, does very evidently appear by the Example of *Jacob* and *Esau*. For if *Esau* had not been influenced with worse Inclinations than *Jacob*, he would have been as pious a Man as his Brother *Jacob*; for such different Inclinations in those two Brothers cannot be ascribed to *Rebecca* their Mother, but well to *Isaac* their Father, who during the time the Seed of *Esau* was a breeding, or gathering in him, he happened to fall into such disagreeable Inclinations to God, as *Esau* appeared to be subject to. And according to the established Order of God they were punished in him, though his Father was the occasion of them; and this is the way hereditary Sin descends upon Posterity, and Children come unhappily to suffer for the Crimes of their Parents.

AND

AND here lies the capital Mistake of Predestinists, for though Scripture tells us that God hated *Eſau* before he was born, and of consequence before he himself could be guilty of any Crime, it was not without a just Merit flowing from his hereditary Sin ; and that Sin being afterwards increased by his impious Inclinations, he did in so much more deserve to be hated by God, and to come to be subject to his younger Brother. And as much as Predestinists are mistaken in respect to this, as much they are mistaken in respect to all other Scripture places, which to them seem to include Predestination. And what is most surprizing in them is to see, that after one has shewed them the true meaning of those places, and so put them out of Power by the like places to defend their wild and most infamous Notion, they apply to the Prescience of God, and pretend that as God does foreknow all the Effects Men are capable of, they can but be effected, limited, and directed by him ; tho' there is nothing more evident, but that knowing and willing are as different to one another, as desiring and obtaining, or commanding and executing are different to one another. And as long as we see such and the like Men at the Head of the most important

portant Sciences, how is it possible they should be brought to Perfection? And as long as they are not brought to Perfection, how can it be possible the World should enjoy the Benefit thereunto depending?



P A R T XXI.

Shewing how and after what manner Arts and Sciences may soon be brought to, and continue at their Point of Perfection, and to establish a sole Christian Faith all over the World.



THE true Way to make all Arts and Sciences come to Perfection, and to make the World enjoy the Benefit thereunto depending, chiefly on those the World is ruled by, is to take care not to have them fall under the Management of such Men, as have neither the Capacity nor the Integrity required for
one

one another, as they appear hitherto chiefly to have been under. For as long as in the most important Sciences (meaning Philosophy and Divinity) we see predominate such Genius's as scarce would be able to make a good *Cobler*, and such as are possessed by a vain and perfidious Spirit, it is absolutely impossible they should be cleared of the infamous and destructive Notions they have by such like Men been filled up with.

AND in order to do what good may be done in that Affair, it will be necessary in every University to appoint and swear Men of Honour, Sense and Understanding, for to examine into the Capacity and Disposition of the Genius of every Scholar, and to take care that he may be put to such an Art or Science as his Genius appears to be most proper for, and not to that which the Whim or Ambition of him, or his Parents would have him. And those who appear to be fit for neither one nor other of the most important Arts and Sciences, let them be put to such Professions or Business, as will be suitable to their Genius's, which will be the way to serve them, and their Parents, as well as the Publick. For it is much better for a Child of an inferior Genius to be put to a Profession agreeable to his Capacity and Integrity,

grity, than to put it to one as for want of one or other, may be the Ruin of him, and his Parents, instead of being the making of either.

MOST, if not all Parents think, that as soon as they have but given the necessary Education to their Children, for whatever important Profession or Employment they have in view for them, there is nothing more required. Without considering, that Education in a Man who has no Genius, signifies no more than Speech signifies in a Parrot, who knows neither the Signification, nor at what time, or on what occasion to make use of the Words he has been taught, and it is very near the same with such like Men ; wherefore, it is impossible, but whatever they come to be trusted with should be in Danger, as well as their Persons. Nevertheless, we commonly find, that as soon as such Men come to any considerable Employment (in which they will never fail, if they have but Money or powerful Relations) they will give themselves much more Airs than Men of Sense and Understanding ; and I have even seen some of them who had the Insolence to give ill Usage to such as they did not deserve to wipe their Shoes. Which shews, that though Sense and

and Understanding fails in a great many People. Pride and Insolence never does ; and it will always be greatest in those who have the least Sense. Others who have more Sense than Integrity, think it a better Conduct by fair Words to keep their Solicitors in hopes, till for want of farther Presents and Subsistence they are obliged to give over : But such Ministers would receive much less Curses, if they did give a fair Denial at the first Address made by such unhappy Solicitors, than they do for making them spend all what they have for no purpose.

ANOTHER Thing which surprizes me very much is, to see that there is scarce any Body that knows well to distinguish a good Genius from a bad one, either in respect to Brightness or Integrity. For in respect to Brightness, we commonly find, that People who appear to have a very volatile Spirit, are lookt upon to be the most excellent in Sense and Understanding, which is as great an Error as ever took place in the World. For it is as impossible any Body of a very volatile Spirit should be the most excellent in Sense and Understanding, as it is for a heavy or stupid one so to be. For as the Soul of a stupid Man is incapable of forming or obtaining a true Notion of any Thing

Thing (his Brains being filled up with too heavy Humours for his Soul to get a true insight into the Ideas she forms of Things) so the Soul of a Man who has too volatile a Spirit or Spirits, is hindred of getting a true insight into the Ideas she forms of Things, because they are of too great an Instability to give her time enough to examine into them; wherefore, one is as incapable of forming a true Judgment of any Thing as the other, and of consequence they are equally incapable of producing any Thing excellent, as well as of apprehending or discerning any Thing to Perfection that is represented to them; and in general there is no other difference between them, but that the one is nearest related to an Idiot, and the other to a Madman. For the Cause of Madness depends on nothing else but on the extreme Volatility or Extravagation of the Animal Spirits, by which the Soul is afflicted, and thrown into all sorts of fantastical and extravagant Actions. And Ideorism depends on nothing else but the heavy Humours the Brains of such a Man are filled up with, and thereby his Soul is hindred from acting according to his natural Light and Capacity. Which together shews, that for a compleat Man, there is not only required a Soul
of

of a good natural Light, but likewise a well organized Body, endued with a middling Temperament.

WHAT has been said will be very necessary to be minded by such as are proposed for the Business here in question. And so will be the Study of Physiognomy, which, though it is laugh at by most of the Learned in our Age, as well as whatever else exceeds their stupid Apprehension; I am by Experience satisfied, that a Man may in any Body's Face, and chiefly in his Eyes, read the best part of the Capacity as well as of the vicious or virtuous Inclination of his Genius. And I shall for the future trust my Judgment more in that Affair, than the report of all the World; for whenever I did in any respect trust the Character of a Man more than what I could read in his Face, I found my self mistaken. And of this I have a very fresh Memory in respect to a Man, whose Face never promised me any more than Hypocrisy; but upon the Persuasions of several of my Acquaintances, and the extraordinary Character he has amongst most People, and his fair Words and Promises, I did put him in Possession of no less than the Value of a Thousand Pounds; but he instead of giving me the Satisfaction

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tisfaction he promised for it, he in a few
 Days after denied every tittle of his Pro-
 mise, and gave me a very scurvy Lan-
 guage in the Bargain; which shews, that
 Rogues will carry it fair before the World,
 till they meet with proper Opportunities to
 play their Tricks. As also it shews, how
 necessary the Study of Physiognomy is to
 any Body, for to Precaution himself against
 such most artificial Villains; and how much
imaginary such ~~People~~ *men* are to be blamed who
 discourage the World in that and other
 most important Studies. The curing of
 Sterility is as much laugh at by such like
 Men, as it is important in respect to se-
 veral People; nevertheless, I am by Expe-
 rience satisfied, that in several Respects it
 may be cured with all the Ease and Safety
 imaginable. And so might the Gout be
 cured, if People would but be confined to a
 proper Diet, notwithstanding it is most ge-
 nerally looked upon to be as impossible a
 Thing as any.

As for the Subject here in Question, it
 is further to be noted, that it would be a
 very just, charitable, and advantageous Thing
 in every Government to visit private Schools,
 or to charge the Master of every one, that
 whenever he has a most excellent Genius
 amongst

amongst his Scholars, to give Notice of it to such Men as I propose for the said End in every University, in order to receive what Education they deserve, at the Expence of the Government. For there very often are such Genius's amongst poor People, as might be of very considerable Service to a Nation, while good for nothing ones come to be the Ruin of it ; but for want of Substance, their Parents are obliged to put them to inferior Trades or Businesses, instead of giving them an Education agreeable to the Merit of their Genius's.

AND there is no doubt, but if what has been said on this Occasion was duly observed, the World would soon see Arts and Sciences come to, and continue at their Point of Perfection, and enjoy the Benefit thereunto depending ; for then Natural Religion would soon be confirmed, and for ever observed after the manner above Established. And likewise Revealed Religion would soon be cleared of the Absurdities and Contradictions it has been filled up with ever since the time of the Primitive Christians. And the many Sects or Branches it has been divided in, would soon find their Abuses, and resolve themselves into one single Body as they were before ; and instead of living in a con-

tinual Envy, shameful Disputes and Profecutions, they would live in a perfect Peace and Quietness.

AFTER which Infidels instead of requiring to be brought in by force, they would all come in with a free and good Will. For then every Body of common Sense would find, and be satisfied, that the Bible, and chiefly the New Testament, really contains the most reasonable, most salutary, and most sacred Religion that ever could have been Established; but the erroneous manner it is now explained and professed by almost every different Sect, none but Children will ever be willing to come into it; but People who are once come to their Years of Discretion, will always be choaked by the vulgar Errors it is infected by; and instead of gaining any Love for it, they will always have it in Aversion. And it is likewise for those Errors (as it has been observed) that Libertines look upon Revealed Religion to be but a mere Fable, as well as they look upon Natural Religion to be a Folly, for being Established upon such Grounds as it has hitherto been; and they will both be lookt upon for the same, as long as the Remedy I have laid down is not put

put into Practice for to prevent it. For without that Remedy it will be for ever seen, as it has been hitherto, that all the good established by Men of Sense and Integrity in one Age, will be overturned by stupid and perfidious ones in another. And more then that it will be seen (as we do every Day) that any Thing good and salutary produced by an inferior Number of Men of Sense and Integrity, will at the same time be opposed by a superior Number of stupid, jealous, and perfidious ones.

AND this is, Gentlemen, what I have for the present thought fit and necessary to lay before you, in hopes there are such amongst you as will protect it with as much Zeal and Sincerity, as I am going to demonstrate the absolute Necessity of it to all the World, without minding the many unjust Censures I shall be liable to receive of those who will find them selves direct or indirectly touched by my undertaking; but, however, I would have them know, that as I have been able to compose this Treatise, without requiring any of their Productions, so I shall be able to defend it, without requiring any Thing of their Sense to assist me. And what will make me further easy in the Matter, is my

being satisfied that every Body of Sense and Equity will find, and declare, that my Design is not to pick a quarrel, but seriously to defend the Glory of God, and the Felicity of Mankind, which I think every honest Man obliged to do; and whoever undertakes to oppose such a Defence, I shall look upon him to be an Enemy to both God and Men, and shall use him accordingly. And to prevent the Sense of it from being perverted, I desire that the Translation of it may be left to my self, as long as I am my self able to put it into such Languages as will carry it through *Europe*, the part of the World for which it is chiefly designed. For we very seldom find Books who treat of very familiar and well known Subjects, to be translated to Perfection; much less can I suppose this to meet with that Fortune, as long as every Subject of it is entirely new and unknown to the World.

I KNOW very well, that the greatest Noise I shall have about this Treatise, will be upon Sir *Isaac Newton's* Account, because I have not represented him according to a Number of blind Imitators; but whoever finds fault with this, I would have him know, that it is not the Business of a Judge to decide any Man's Cause according

ing to what it appears to others, but according to what it appears to himself, and as he may in Truth and Conscience be able to answer for it. But no doubt, to this they will say, that if I had found him guilty of any Errors I should have refuted them in a mild and courteous Language; to which I answer, That the Infamy of his Notions, and the Usage I have receiv'd of him, and several of his blind and most zealous Imitators, instead of deserving a mild and courteous Language; they deserve a perfect Billingsgate one, and I should have thought it very just to use it against them, if it was natural and suitable to me. Besides I am not so much in Love with Contradictions, as others appear to be, who before they go to refute the Errors of any Author, they will admire him as much as they can, which in it self is nothing but a direct Contradiction in Terms. Besides this Way of refuting the Errors of an Author shows as much Ambition and Absurdity, as it shows Contradiction, for to admire an Author to the utmost degree, before one begins to refute his Errors (as most appear to do) is just as if one did say this Author is the greatest that ever was, nevertheless I would have you to know, that I am much great-

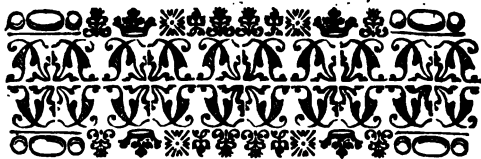
er, and of consequence much more deserving of Admiration than he. And that dear Love of Admiration we find to be the only Thing most Authors have in view, and they will endeavour to obtain it at any rate. But this is not my Design, for what all I aim at is only and in plain and direct Terms to make the World sensible of the dangerous and destructive Notions it is infected by ; how and after what manner they may be banished out of it, and to establish Natural Religion upon true and glorious, instead of establishing it upon false and infamous Grounds : And I wish *Des Cartes* and Sir *Isaac Newton*, and every one of their blind and idolatrous Followers had done the same, I should have the Pleasure of Writing in Admiration, instead of having the Displeasure of Writing in Contemnation of them. I am,

GENTLEMEN,

Your most very

Humble Servant,

J. C. F. H.



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how

the 1990s, the number of people with a mental health problem has increased by 50% (Mental Health Foundation 1999). The prevalence of mental health problems has increased in the general population, and the incidence of mental health problems has increased in the prison population.

There is a growing awareness of the need to address the mental health needs of prisoners. The Department of Health (2000) has published a strategy for mental health care in the community, which includes a commitment to improve the mental health of prisoners. The Department of Health (2000) has also published a strategy for mental health care in prisons, which includes a commitment to improve the mental health of prisoners. The Department of Health (2000) has also published a strategy for mental health care in prisons, which includes a commitment to improve the mental health of prisoners.

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